First Copy

FLEET OWNER

LUME 17
MBER 1 •

DEVOTED *to the* BETTER OPERATION *and* MAINTENANCE *of all* AUTOMOTIVE FLEETS

IN THIS ISSUE:

REFINISHING SCHEDULES IN A RENTAL FLEET . . . . . Page 20
HOW GREYHOUND HANDLES THE SAFETY PROBLEM . Page 24
WHY CHANGE TO SUMMER LUBRICATING OILS? . . . Page 28
SELECTING AUXILIARY LIGHTING EQUIPMENT . . . . . Page 30
CHOOSING TRUCK COLORS TO PREVENT ACCIDENTS . . Page 33
PUBLIC UTILITY MAN DESIGNS PICK-UP BODY . . . . . Page 36

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JULY
1936
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Another diagram OF BONUS-LOAD

Body built and mounted on Mack semi-trailer by Mack Trucks, Inc., New York.

The Bonus-Load made possible by building truck bodies of Alcoa Aluminum is inside where you cannot see it.

However, we have arranged this illustration to show where the Bonus-Load comes from. More than half of the body illustrated is *behind* the leaf on which these words appear. That much of the body, if built of ordinary, heavy materials, would represent needless ballast.

Building of Alcoa Aluminum does away with all that ballast. In its place you haul Bonus-Load.

Here are the exact figures: Weight of body built of Alcoa Aluminum, 3840 lbs. Estimated weight, if built of ordinary materials, 8500 lbs. Ballast saved and Bonus-Load gained, 4660 lbs. Roemer Brothers, haul over 2¼ tons of income producing Bonus-Load without additional operating cost.

Alcoa Aluminum saves weight because Nature made it light, and because Research has made it strong to assure the ruggedness that trucking service demands.

You can enjoy the same Bonus-Load profits by following the lead of other successful operators: Specify Alcoa Aluminum. Our experience and "know how" are at the service of you and your builder. ALUMINUM COMPANY OF AMERICA, 2161 Gulf Bldg., Pittsburgh, Pa.

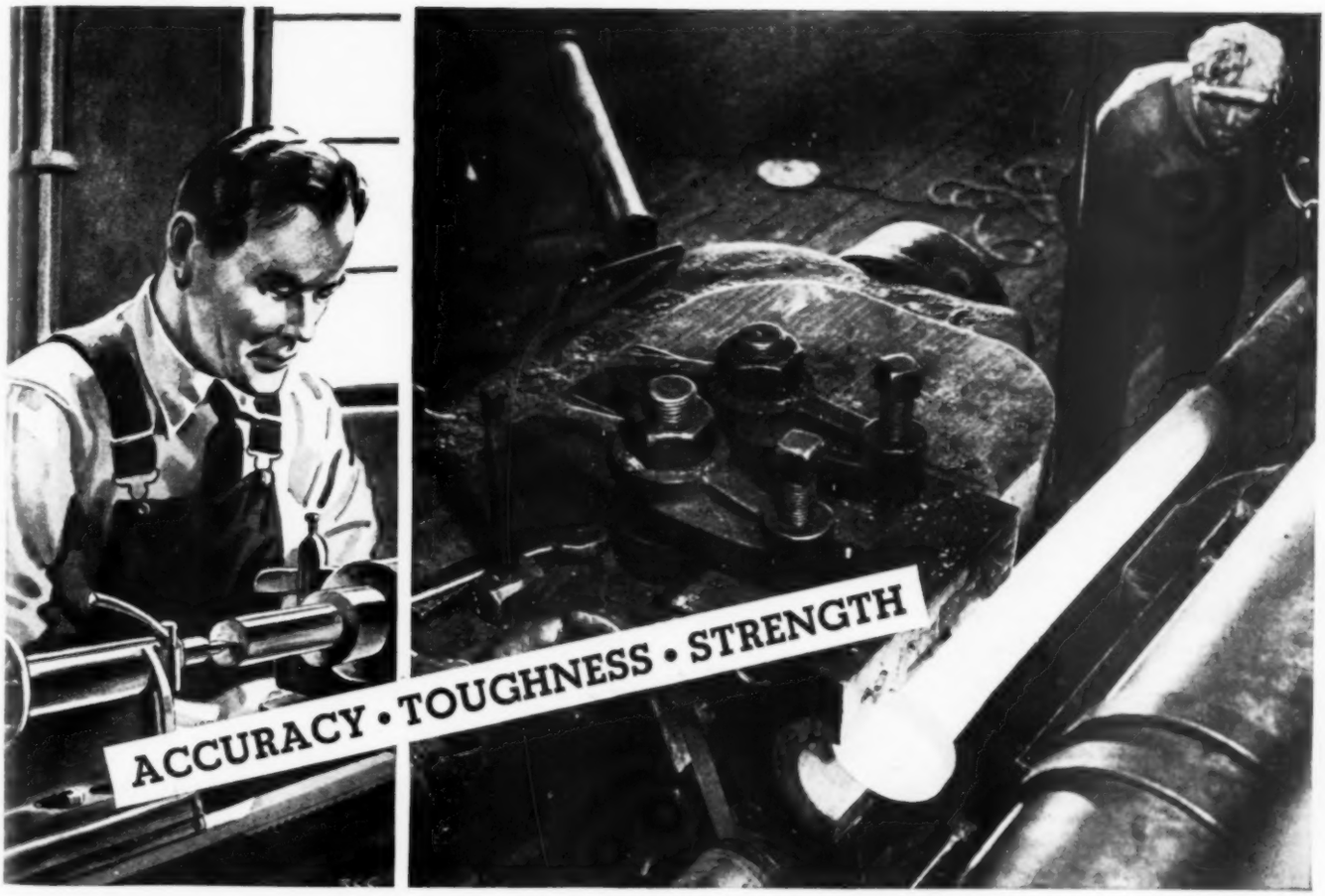
Another way of showing amount of Bonus-Load. It is almost 1¾ times the weight of the entire Aluminum Body. This truck is operated by Roemer Brothers Trucking Co. for Feigenspan Brewers, Newark, N. J. Bonus-Load gained by building of Alcoa Aluminum, 4660 lbs.

ALCOA

ALCOA · ALUMINUM

Boy! we forge 'em tough

—AND WE FINISH 'EM RIGHT



GET WHAT YOU WANT WHEN YOU WANT IT!

There are 1466 New Departure Bearing distributors in the United States. That means you can get the bearing you want, *at once!*

WHEN a ball bearing is on the job, it has to take a lot of jolts. That's why New Departures have toughness walloped into them by the good, old, sure-fire method of forging.

But a tough bearing isn't all you want. You've got to have bearings that are exactly the size they're supposed to be. Bearings like that hold gears in line. No jiggling around. No getting out of mesh. No chattering themselves to death. So New Departures are made with real precision. They are tested in gauges that read in hundred-thousandths of an inch. And they have to meet the test. For replacement jobs there's nothing like New Departure Bearings. When you need bearings call the New Departure distributor. He has what you want. He knows his stuff. He's got a stock close by.

UNITED SERVICE MOTORS
A NATIONAL ORGANIZATION

NEW DEPARTURE

THE *FORGED STEEL* BEARING

The PROOF is

TESTS LIKE THIS quickly show why Marfak stays in bearings so much longer than ordinary grease lubricants—why the Maintenance Awards for the past six years have gone to fleets using Marfak for chassis lubrication.

ONCE IN 25,000 MILES. One of the largest fleet operators in Virginia packs wheel bearings with Marfak, and does not remove hub-caps even for inspection until vehicles have traveled 25,000 miles.

LARGEST OPERATOR IN U. S. of both buses and taxicabs, uses Marfak exclusively for chassis lubrication.

TEXACO *Truck*

in your hands

You can get thousands of extra miles from this self-sealing chassis lubricant

Make a ring of Marfak on your palm. Trace a circular path inside this ring—to simulate Marfak's action in a bearing. See how Marfak liquefies and provides a liquid film inside *the ring, while retaining its original consistency on the* outside.

This 3-minute test shows you why more bus-miles are driven with Texaco Marfak than any other lubricant of its kind.

Marfak lubricates steering systems, shackles, wheel bearings, universals—protects them with a tough, stringy, clinging film that stays in place several times longer than ordinary lubricants.

Ordinary lubricants often break down, separate, squeeze out, leak, and wash away. Despite almost constant replenishing, they permit undue wear.

Marfak is giving thousands of extra miles of service. It is making substantial savings in operating and maintenance costs.

A Texaco representative will be glad to provide practical engineering service to prove the economies of Texaco Products.

THE TEXAS COMPANY · 135 East 42nd Street, New York City

Nation-wide distribution facilities assure prompt delivery

FOR TRANSMISSIONS AND DIFFERENTIALS

Developed expressly to withstand today's high tooth-pressures, Texaco THUBAN retains its lubricating characteristics. Keeps gears running cooler, quieter, longer.

Many gear lubricants contain fillers which separate, forming cokes and residues that often cause trouble.

USE TEXACO THUBAN FOR SAFE LUBRICATION

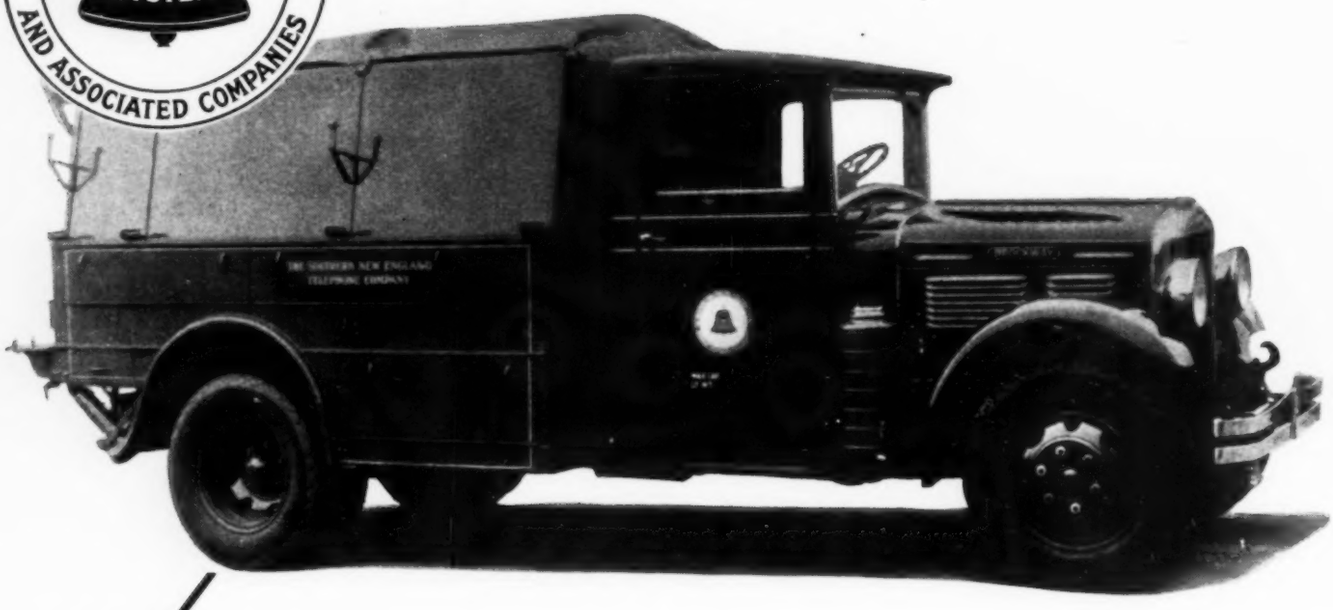
TEXACO REG. T. M.

Lubricants

AMERICAN TELEPHONE & TELEGRAPH CO. AND ASSOCIATED COMPANIES

BELL SYSTEM

LOW COST, LONG-DISTANCE CALLS FOR TELEPHONE USERS



and...

A LOW-COST, LONG-LASTING FINISH *for Telephone trucks*

THE Bell Telephone System is consistent on the question of economy. In its advertisements it constantly reminds the public of its low rates for long-distance calls.

On its trucks it practices economy by using a finish that has proved its durability and long life.

It uses large quantities of Du Pont Automotive DULUX.

This isn't an isolated case. All over the country, fleet owners are keeping maintenance costs down with Automotive DULUX.

This remarkable truck finish is a du Pont development. Every one of its brilliant colors *keeps* its rich lustre for an unusually long time. The tough, smooth film of DULUX is easy to wash and polish, because it leaves no foothold for clinging dirt. It resists the harmful effects of traffic gases, grease and oil. It is elastic, and does not readily chip or crack.

DULUX is Durable

DULUX stands up! It keeps its fine, sparkling appearance in spite of all kinds of weather. And it laughs at the hard knocks of daily road wear. All these advantages of looks and durability mean real savings for fleet operators. Trips to the refinishing shop are few and far between.

You'll save money too by finishing your trucks with Automotive DULUX. And wherever they go, the bright gloss of DULUX will make each truck a splendid advertisement of your business.

Right in your own shop, you'll find DULUX easy to apply—either with brush or spray. If you haven't the facilities, an Authorized DUCO-DULUX Refinisher will finish your trucks for you. Ask a du Pont representative to give you complete details about Automotive DULUX. Write to E. I. du Pont de Nemours & Co., Inc., Finishes Division, Refinish Sales, Wilmington, Del.

DU PONT

REG. U. S. PAT. OFF.

AUTOMOTIVE

DULUX

REG. U. S. PAT. OFF.

Do Spark Plugs Affect Gas Mileage?

The answer is yes. Tests have been made, proofs offered, and stories told but the true story of gas mileage and spark plugs has never been dramatized until the last Indianapolis 500 mile race.

To all operators of large fleets of trucks, buses or motor cars, gas mileage is an all-important item. Operating costs must be kept to a minimum to insure a profitable operation. And, strange as it may seem, spark plugs can be the very reason why operating costs may be high or low.

Let's turn to this well-known laboratory for the automotive industry, for outstanding evidence—the Indianapolis Motor Speedway. On May 30th, 33 racing cars awaited the signal to send them speeding toward a goal 500 miles away. Gasoline was limited to 37½ gallons for the 500 miles, necessitating an average of nearly 14 miles to the gallon. Of the 33 cars that started the 500 mile grind on Decoration Day, 22 were equipped with Champions and of the first 10 cars that finished the race, ALL were equipped with Champions.

There is a moral to this dramatic story and an answer to that oft-heard question—do spark plugs affect gas mileage? They do, emphatically so, for in the 1936 Indianapolis race, spark plugs were all important. A missing cylinder caused by a leaking, pre-igniting or fouled plug meant loss of speed, waste of precious gasoline. An eloquent testimonial to the economy and dependability of Champion Spark Plugs rests on the fact that the first 10 cars to finish used Champions. And it also establishes the importance of spark plugs in maintaining the best performance, economy and dependability. That is why all spark plugs should be tested, cleaned and replaced at regular intervals to insure peak efficiency.

If you have a particularly vexing spark plug problem, let us route one of our factory trained men in to see you. Constant engineering and research enable us to prove to you that Champion Spark Plugs will meet and beat your problems.

The Georgia Power Company operates 94 buses which travel about 4,500,000 miles annually. Champion Spark Plugs are used exclusively as a result of comparative tests proving Champions give greater gas mileage.

The Zinsmaster Baking Co. who operate over 100 delivery cars in Minneapolis, St. Paul, Duluth and Hibbing, Minnesota, use Champion Spark Plugs for their dependability in sub-zero weather and extreme heat.

Champion

EXTRA-RANGE SPARK PLUGS

Use the Spark Plugs Champions Use

TO KEEP ENGINES YOUNG, TEST, CLEAN AND REPLACE SPARK PLUGS AT REGULAR INTERVALS

A QUALITY PRODUCT BY A FAMOUS MAKER

YOU can buy Duplate Safety Glass with perfect confidence in its dependability. For it is manufactured by a company long famous for its fine glass products . . . the Pittsburgh Plate Glass Company. A half century of experience in glass making . . . of research and development work carried on in modern laboratories . . . and the internationally recognized reputation for quality enjoyed by this manufacturer . . . are back of every light of Duplate produced.

Ask for Duplate when ordering new equipment. Call your nearest Duplate dealer, who is listed in your local telephone book, when you want replacement service. And remember that if circumstances require you to sacrifice Duplate's perfect visional qualities in favor of a lower priced safety glass, you will find Duolite, the Safety Pennvernon Glass, a worthy product to meet your needs. Pittsburgh Plate Glass Co., Pittsburgh, Pa.

Duplate Safety

A PRODUCT OF
Paint { PITTSBURGH PLATE GLASS COMPANY } Glass

"WITH A LOAD VALUED AT $85,000 WE CAN'T TAKE CHANCES ON TIRES"

Says J. Miller Lackey Manager, Selby Stud

HOW NEW GOODRICH TRUCK TIRES ARE PROTECTED AGAINST SIDEWALL FAILURES

Moving valuable registered horses to and from show grounds, race tracks and polo fields is no small responsibility. Many horses are valued at $20,000 to $30,000 and it is not uncommon for one of the animals to be injured in transit.

To protect his champion Arabians, Mr. Roger A. Selby, President of the Selby Shoe Co., Portsmouth, Ohio, had a tractor-trailer unit specially designed to reduce the risks involved in transportation. This unusual outfit is built to carry six horses, equipment and from two to six men.

To haul this precious cargo, Goodrich Silvertown Truck Tires are used exclusively. These tires are Triple Protected—built especially for the extra-tough hauling jobs.

They're first choice among truckers who have valuable loads—long hauls or any unusually severe service. It's because the new Silvertowns actually check 80% of premature failures! A revolutionary invention built into the sidewall guards against blow-outs and road delays. No other tire has this construction!

If you want to cut down the tire costs on any job, get the tire used on the world's toughest hauls. It will do your job better, too. And remember, Silvertowns cost no more than other standard tires.

NOTICE TO OWNERS OF HALF-TON TRUCKS

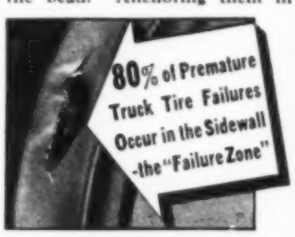
Goodrich has a new kind of tire for half-ton trucks. It's the "Commercial 15"—a low-pressure tire with all the advantages of a truck tire and automobile tire combined. It cushions the load, gives greater mileage, blow-out protection and non-skid safety.

HOW TRIPLE PROTECTION WORKS

1 PLYFLEX—a *new*, tough, sturdy rubber material with greater resistance to stretch. A layer of Plyflex in the sidewall prevents ply separation—distributes stresses—checks local weakness.

2 PLY-LOCK—the new Goodrich way of locking the plies about the bead. Anchoring them in place. Positive protection against the short plies tearing loose above the bead.

3 100% FULL FLOATING CORD—Each cord is surrounded by rubber. With ordinary cross-woven fabric, when the cords touch each other, they rub—get hot—break. In Silvertowns, there are no cross cords. No friction.



© 1936, The B. F. Goodrich Co., Akron, Ohio.

Goodrich *Triple Protected* Silvertowns

SPECIFY THESE NEW SILVERTOWN TIRES FOR TRUCKS AND BUSES

Don't gamble WITH FIRE RISK!

Fire . . . explosion . . . are the hazards you inevitably create when gasoline or kerosene are used for cleaning floors. According to statistics the number of fires each year due to the continued use of these hazardous materials, is surprisingly large. Why expose yourself unnecessarily to these risks . . . there is no need to because you can

CLEAN FLOORS WITH OAKITE PENETRANT AND *play safe*

Oakite Penetrant is used in water solution . . . is non-combustible. There is no danger from fire or explosion. And important to you is the fact that Oakite Penetrant cleans better than gasoline or kerosene . . . cleans FASTER and at considerably LOWER COST. Further, removing muck and grease becomes a less laborious job. Your men do it more easily, effectively.

Write for interesting free booklet that gives further details about floor washing, parts cleaning. No obligation.

Manufactured only by
OAKITE PRODUCTS, INC., 52G Thames St., NEW YORK, N. Y.
Branch Offices and Representatives in all Principal Cities of the U. S.

OAKITE
TRADE MARK REG U.S. PAT OFF.
SPECIALIZED INDUSTRIAL CLEANING MATERIALS & METHODS

The

FLEET OWNER

Published Monthly in the interests of Automotive Fleet Owners, who maintain their own Repair and Service Shops and devoted to the better Operation and Maintenance of Truck, Trailer, Bus, Passenger Car, Taxicab and all Automotive Fleets.

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In This Issue:—

Stripping the Thread ..... Editorials 15
"Safer Than Your Own Fireside" 18
Paint Problems in a Rental Fleet ..... H. Clay Fischer 20
The Rewards of Safety ..... Marcus Dow 24
Why Change to Summer Oils? ..... E. F. Hallock 28
Some Advice on Lighting Equipment ..... J. M. Sharpe 30
News of the Truck Industry 32
Selecting Truck Colors to Prevent Accidents 33
Eliminating Noises in Car Radios 34
An Interesting Pick-Up Body ..... D. H. Woods 36
Kroger Grocery Fleet Adds New Tractors 38
AAA Tests Trucks in School of Experience 40
Fitting the Truck to the Job ..... W. C. Mackenzie 42
Here and There in the Fleet Industry 44
New Reos are 3-5 and 4-6 Ton Jobs 45
Letters to the Editor 46
Diamond-T Offers Model 80—a ¾-Tonner 47
New Trade Literature 48
"Hill-Holder" Available on Studebaker Trucks 49
Trouble Shooters' Department 50
Question-of-the-Month Club 52
Here and There in the Truck Industry 54
New Products for Road and Shop 55
Index to Advertisers 72-73

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Charter CCA Member

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FOR BIG LOADS . . . FOR UNMATCHED VALUE . . . FOR GREATER PROFITS . . .

Light loads, medium loads, heavy loads —whatever your hauling needs may be, there's a GMC to fit and to challenge the field.

Take the medium duty range, for example. For 3 to 5 ton loads, there is an array of GMCs whose popularity is proved by registration figures alone. These big, rugged trucks have, first of all, the advanced streamlined styling that buyers have been quick to value. Powerful valve-in-head engines with their many quality features of design assure the performance and economy that are reflected in more trips, more work, greater profits. In fact, everything about these modern GMCs "shouts" engineered-for-the-job design and construction.

Then, too, the new all-steel "helmet-top" cabs, available for these and other trucks in the GMC line, match the chassis themselves in features that contribute to advanced styling, comfort, convenience and long life.

Words fall far short of doing full justice to the great GMC line. Inspection, comparison and test will prove far more.

GMC THE TRUCK OF VALUE ½ TO 15 TONS

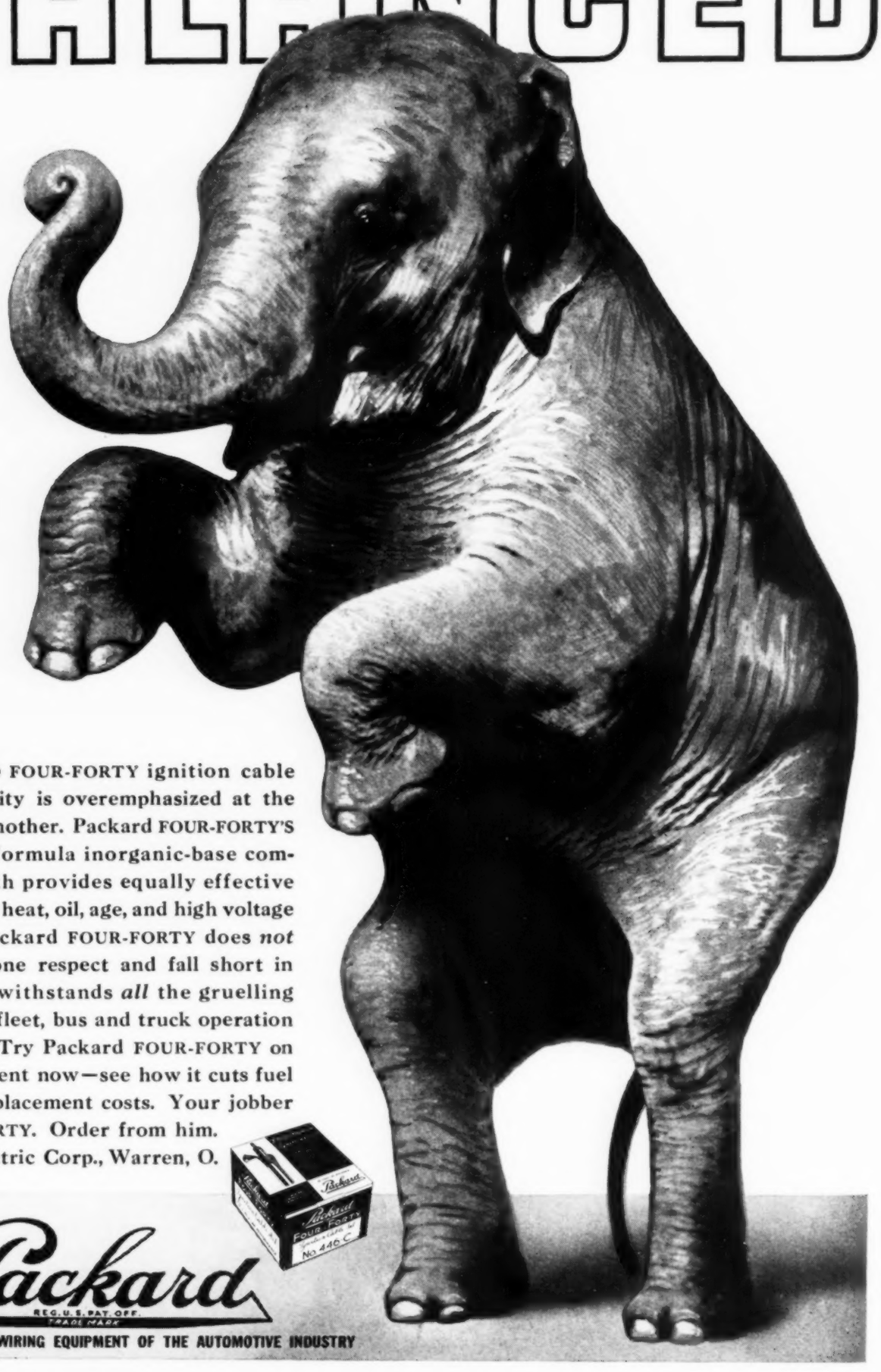
GMC PRICES START AT $425
FOR THE ½-TON CHASSIS, F.O.B. PONTIAC

Time Payments available through our own Y.M.A.C. 6% plan

General Motors Trucks and Trailers

GENERAL MOTORS TRUCK COMPANY • PONTIAC, MICHIGAN

BALANCED



IN PACKARD FOUR-FORTY ignition cable no *one* quality is overemphasized at the expense of another. Packard FOUR-FORTY'S new secret-formula inorganic-base compound sheath provides equally effective resistance to heat, oil, age, and high voltage rupture. Packard FOUR-FORTY does *not* "shine" in one respect and fall short in another—it withstands *all* the gruelling service that fleet, bus and truck operation can give it. Try Packard FOUR-FORTY on *your* equipment now—see how it cuts fuel and cable replacement costs. Your jobber has FOUR-FORTY. Order from him.
Packard Electric Corp., Warren, O.

Packard
REG. U. S. PAT. OFF.
TRADE MARK

THE STANDARD WIRING EQUIPMENT OF THE AUTOMOTIVE INDUSTRY

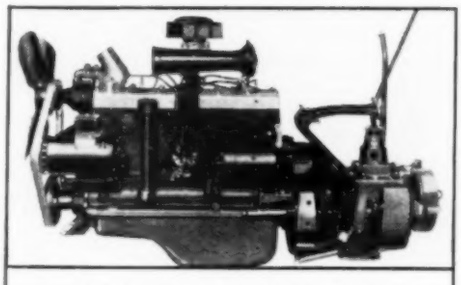
1½-Ton 136" W. B. Chassis and Cab, 6-Cyl. . . . $605*
(Semi-Trailer and 5th Wheel Extra)

DODGE 1½-TON NOW $505*

Think of it! DODGE IS PRICED WITH THE LOWEST... YET SAVES UP TO $95 A YEAR ON GAS ALONE!

THOUSANDS SWITCH TO DODGE TO GET THESE GREAT FEATURES

With Dodge trucks priced right down with America's other two lowest-priced trucks, Dodge has asked truck buyers to investigate... Dodge challenged for a "showdown" of recognized quality features... and the result has been a literal stampede of truck buyers everywhere to Dodge!

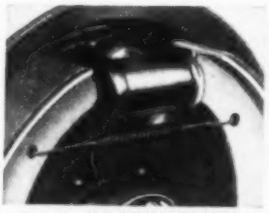


6-CYLINDER, "L"-HEAD ENGINE

With 6 Special Gas and Oil Saving Features

Only Dodge of the three lowest-priced trucks gives you this type of engine. It's simpler, costs less for service. Owners everywhere report "it saves up to $95 a year in gas alone." Your Dodge dealer says "prove it yourself." Ask him to let you borrow the little machine that shows how far any truck, new or old, goes on a gallon. Give yourself a "showdown"...see how much money Dodge will save on gas for *you!*

***See Your Dodge Dealer for* FREE GAS TEST!**



Genuine HYDRAULIC BRAKES
Dodge was first with hydraulic brakes in the lowest-priced truck field. Dodge *genuine* hydraulic brakes stay equalized, save tires, brake lining and adjusting expense.

FULL-FLOATING REAR AXLE
Another quality feature that was pioneered by Dodge in lowest-priced 1½ ton trucks. It saves upkeep expense, makes servicing easier, makes your truck more dependable.

ROLLER-BEARING UNIVERSALS
Still another quality feature that Dodge has pioneered in the lowest-priced truck field. Check backlash...make your truck more dependable and economical to run.

"HOW can Dodge give all these known, recognized quality features, now that Dodge trucks are priced with the lowest?" Truck buyers everywhere, amazed at the extra value Dodge offers today, keep asking that question. The answer is that Dodge has always built quality trucks. For years, these Dodge quality trucks have had high-priced truck features, like hydraulic brakes and safety-steel body—two features that you won't find combined, even today, on either of the other two lowest-priced trucks—and Dodge offers not just a few of these extra-quality features, but over two dozen of them. Features of all three lowest-priced trucks are shown in the 1936 "Show-Down" Score Card. Get one FREE from your Dodge dealer.

DODGE . . . Division of Chrysler Corporation

1½-Ton 136" W. B. Chassis, 6-cyl.	$505*
1½-Ton 136" W. B. Stake, 6-cyl.	$690*
½-Ton 116" W. B. Chassis, 6-cyl.	$370*
½-Ton 116" W. B. Pickup, 6-cyl.	$500*

**List prices at factory, Detroit, subject to change without notice. Special equipment, including dual wheels on 1½-ton, extra. Easy terms gladly arranged to fit your budget, at low cost, through Commercial Credit Company.*

***Dependable* DODGE TRUCKS**

FLEET OWNERS EVERYWHERE PLACE FAITH AND DOLLARS IN GMC TRAILERS

Larger and larger grows the list of truck operators who own GMC trailers. In fact, GMC trailer sales have increased 480% in a period of five years.

Small wonder when you consider the facts. GMC trailers are designed by an organization with years of experience in the commercial vehicle field—an organization that lives and breathes transportation —an organization with the ability and the facilities to build the kind of trailers that exactly fit the needs of users.

There's a GMC in the correct size to fit the requirements of 9 out of 10 buyers. All are truck-built. All are exceptionally modern. They are available complete with standard bodies. Each type has a score or more of features that assure long life, economy of operation and safety. You are urged to get all the facts—either direct from the General Motors Truck Co., Pontiac, Mich., or from your nearest General Motors dealer.

NATIONALLY KNOWN CONCERNS, SUCH AS THESE, OPERATE GMC TRAILERS

Pennsylvania Railroad; U. S. Trucking Lines; Pure Oil Company; Atlantic Refining Co.; Standard Oil of Kentucky; Gulf Refining Co.; S. Calif. Freight Lines; Niagara Freight Lines; Kentucky Transport; Reliable Cartage Co.; Sloane-Blabon Corp.; Northern Pacific R.R.; Scott Bros. Transportation Co.; Kroger Grocery & Baking Co.

THE TRAILER OF VALUE

GENERAL MOTORS TRUCK COMPANY, PONTIAC, MICHIGAN

VOL. 17
NO. 1

FLEET OWNER

JULY
1936

DEVOTED TO THE BETTER OPERATION AND MAINTENANCE OF TRUCK, TRAILER, BUS, TAXICAB, PASSENGER CAR, AND ALL AUTOMOTIVE FLEETS.

Stripping *the* Thread » »

(The Editor's Column)

OBJECT LESSON No. 123456

● Having our office on lower West Street has *some* advantages. We don't have to go very far to keep posted on the various types of transportation units that ingenious operators are putting to practical use. . . . West Street happens to face the Hudson River, with its numerous ferry terminals, steamship piers and warehouses, and a liberal education in transportation can be had, free for the taking, if one has the time to just sit and watch. . . . When the weather is fair, there's more to see and more of an inclination to observe. . . . Now and then we see something that just goes against our grain. For example, this particular morning we observed a nice, new, shiny 1½-ton tractor, with but 52 miles on the speedometer—not yet broken in. . . . What do you think it was hauling? A *very* old-fashioned semi-trailer, one of those high dropless-frame types, which was "hitched" to the tractor with the crudest of fifth-wheel devices, partly factory-made and partly home-made. . . . Of course the trailer had brakes—those that came with it, but no provision was made for their operation, since the brake-rods were fastened with hay-wire to the side of the frame, to keep them from dragging on the ground. . . . And what kind of a cargo do you think it was carrying? Many, many tons of baled waste-paper—one of the heaviest things imaginable. . . . There was a swell example of overloading, operating with insufficient brakes, and placing undue strain on a brand-new motor. The unit bore a New Jersey license and the name of an individual with the legend "Hauler" tacked on to it. . . . We got the impression that this particular hauler scraped together the down-payment on the tractor, picked his trailer out of a junk-yard "and went into business for himself." . . . He probably "chiseled" the hauling contract by cutting the rate to nothing and doing his own driving, and, although the "sale" of a new unit was involved, our thought is that the industry would be better off without such truckers. . . . What do *you* think?

●

WHAT'S THIS?

● No, it's not a picture of a young lady in the cockpit of a speed-boat, rumble-seat or bath-tub. . . . It's Joan Marsh, star of screen and radio, seen from above, seated in one of the 2,200 new type taxicabs which were recently placed in operation in New York City. . . . Appropriately called "Sunshine" Cabs, because of the European-type sliding roof, which opens to let in sunlight from above. . . . The new fleet represents the largest single order for taxicabs ever placed, so we are told. . . . The deal involved over $2,000,000, (without Joan Marsh). . . . The last sentence is one of the publicity men's gags, which we thought well worth repeating. . . . Miss Marsh had the honor of christening the first of the new cabs by smashing a bottle of champagne on its bumper. . . . The cabs are all De Sotos.

THE COVER PICTURE

● Blame it on your Editor's love for boats, if you will. The fact that it's a Gar Wood boat doesn't matter; neither will you be extraordinarily impressed if we tell you that it's mounted on a Kingham trailer, hauled by a Dodge tractor. . . . The trend in transportation is what counts. Formerly, boats of this size and larger, when it was desired to ship them great distances, were loaded onto railroad flat-cars, if it was impossible to deliver them "on their own bottoms," or, as you would say, "under their own power." . . . During the last few years there has been a distinct leaning towards truck transportation on the part of the boat industry. As proof of it we are offering this picture and story. . . . In this particular case the 20-foot cabin utility boat was shipped from Marysville, Mich., (where Gar Wood builds 'em) to Yakima, Washington—a distance of 2,815 miles. . . . The shipment represents, we are told, the longest overland boat delivery on record. . . . Also of some significance is the fact that the boat dealer to whom it was shipped is also a car and truck dealer. . . . The story doesn't tell it, but we wouldn't be a bit surprised if he went to Detroit and picked up delivery of the new truck and trailer, and then picked up the boat—thus saving freight on "all three" and eliminating the empty-haul back. . . . You never can tell.

(Please turn over)

●

H. Clay Fischer
Editor

●

ACCENT ON SAFETY! . . . Upon the completion of one year of driving Railway Express Agency vehicles, the employee who has had no accidents for which he is responsible, is awarded a "merit card" similar to this one, signed by his Superintendent. . . . Similar awards for longer terms of no-accident driving are signed by higher officials of the company. . . . Have you a little safety program in your fleet?—H. C. F.

RAILWAY EXPRESS AGENCY
INCORPORATED

193

This is to certify that *James Shade*
has driven a company truck for one year in the
City of *Syracuse, Ohio*
without an accident for which he was responsible

Charles Grey
SUPERINTENDENT.

Stripping *the* Thread . . . . .

(*Continued from page* 15)

ENGINES MAKE PAINT?

● The expression "impurities" as applied to those foreign materials that are usually found in used crankcase oils, has for many years been taken for granted to include water, sludge, acids, carbon, metal-particles, grit and just plain dirt. . . . And the oil-filter salesmen have all come around with practically the same story—that the Blank filter will remove *all* of these things and leave your crankcase oil as clean as you please. . . . A new type of "impurity" has been discovered, it would seem, which is described by many people as some new form of "crankcase gum"—not the usual soluble kind of gum, but a product of combustion that may be likened to the synthetic resins used in the manufacture of modern commercial vehicle paints. . . . All that we need now is for someone to come along and give us an oil-filter that will separate these resinous gums, collect them in a reservoir and convert them to synthetic "clears". . . . Or, we might be able to order our colors in advance, by dropping a green, red or blue pill into the crankcase, and letting the engine make the paint for us.

●

SOMETHING TO WORRY ABOUT

● Getting back to s e r i o u s thought, these insoluble "synthetic" gums seem to constitute a *new* menace to the fleet overhead-reducer's peace of mind, if we are to believe what certain people tell us. . . . We'd say nothing at all about it, if it weren't pointed out to us with alarm. We refuse to commit ourselves as to whether these gums are developed as a result of the fuel used, or not. . . . We asked our informant to describe these gums to us and he says that they are "putty-like" when cold and "gummy-like" at engine temperatures. . . . In new or rebored motors with tight clearances, these impurities are likely to "gum up" the works—that is (and here's the rub) *unless* a *good* oil-filter is used. . . . But if the source of the gums is the fuel, oil filters can only remove that which gets by the rings, and down into the crankcase. . . . The foregoing information is offered on the basis of whatever it may be worth. It should provide a good topic of conversation the next time your oil man comes around—or when Bill Smith tries to interest you in a new type of oil-filter. . . . But you can't prove it by us. All we know is what the other fellow tells us, and we're passing this "headache" on for you to ponder over. . . . Just as soon as more definite information is uncovered on the subject—and this may be considered as an invitation to oil refiners—we'll be glad to give you the benefit of whatever data is available on the subject.

●

WHAT'S THIS?

● Bringing the Mountain to Mohammed? No. . . . It's just something that we should not like to meet coming down the road. . . . The removal of settlers' buildings from the Beltrami Island Forest in Minnesota seemed almost impossible, until an operator took the job, with trucks. . . . As the picture shows, one end of the building was carried on the platform bodies of two trucks, the rear end being supported by heavy logging wagons. The barn shown in the picture was moved nine miles, so we are told. . . . It's a good advertisement for someone, especially if you can guess the make of trucks being used. If you can't, we won't tell you, since this page tries to refrain from that sort of stuff, you know.

●

ANNOUNCEMENT

● Our 20,000 readers may find some interest in this announcement. . . . The ownership of FLEET OWNER is now vested in the executive personnel who have been operating it for the past several years. . . . By augmenting their stock holdings they have acquired full ownership of The Ferguson Publishing Company. . . . In case you are interested, the names are listed in the masthead on page 10 of this issue. . . . To the reader this should indicate a continuance of the policy which has thus far been successful, since there are no changes contemplated and the personnel remains the same. . . . Of course, if you have any suggestions whereby we may improve the service, we'll welcome them. . . . It gives us much pleasure to make this announcement.

●

PAGE MR. WEBSTER!

● We know of a truck driver whose definition of the word "accident" is—"something that happens to the other fellow." If you have any such "Hooligans" in your fleet, take this opportunity to remind them of that old saying: "Accidents don't happen—they are caused!"

HAULS 9-TON LOADS 52,000 MILES
SPENDS ONLY $5.90 FOR REPAIRS

The 131½-inch wheelbase chassis with closed cab, illustrated here, is rapidly gaining in popularity for use with semi-trailers

THERE are as many kinds of trucking jobs as there are trucks. Some call for speed . . . some for power . . . some for endurance. But they all call for low cost. That's the common meeting-ground of truck owners in EVERY line of business. And that explains why the trend to Fords is not limited to any single group of truck operators.

A. F. Rechtzigel of St. Paul, Minnesota, reports that his Ford V-8 Truck has gone 52,000 miles, hauling average loads of 9 tons. His total repair bill has been $5.90. His case is typical of the low repair costs reported by Ford owners.

But low repair costs are only a part of Ford V-8 Truck savings. V-8 Economy is OVER-ALL ECONOMY. Similar savings are reported in fuel and oil, tires, taxes, insurance, license fees, wages, depreciation, interest charges, accident repairs, appearance up-keep and capital investment.

Your operation may not call for heavy loads or high mileage. But it does call for low cost. Call a Ford dealer and set a date for an "on-the-job" test. Find out what a Ford V-8 Truck will do under your own operating conditions.

THE ONLY TRUCK THAT GIVES YOU A V-8 ENGINE . . . PLUS THESE ADDITIONAL QUALITY FEATURES

Full-floating rear axle with straddle-mounted pinion . . . full torque-tube and radius-rod drive . . . quick-action safety brakes . . . big, 11-inch heavy-duty clutch . . . truck-type four-speed transmission . . . deep, rugged frame with full-channel-depth cross-members . . . durable baked-enamel finish.

• • •

• Any new 112-inch wheelbase Ford V-8 Commercial Car can be purchased for $25 a month, with usual low down-payment. Any new 131½-inch or 157-inch wheelbase Ford V-8 Truck can be purchased with the usual low down-payment on the new U C C ½% per month Finance Plans.

FORD V·8 TRUCKS
AND COMMERCIAL CARS

GENTLEMEN of the Highways—These drivers for AC Spark Plug Company have driven 1,520,000 miles in the past 12 years without an accident. . . . At extreme right are Jess Benner, Supt., and Martin McGinnis, Dispatcher.

"Safer Than Your Own Fireside"

STATISTICIANS can show you that you would be much safer riding on trucks with the above ten drivers, than you would be sitting at home by your own fireside.

These "Gentlemen of the Highways" are drivers of trucks owned and operated by AC Spark Plug Company, Flint, Mich. They have recently completed a 12-year record, during which their trucks were operated over 1,520,000 miles, mostly in city driving, without a single accident.

Several of these drivers have been on the job for more than ten years. They average 60 miles per day, largely in city territory. Five of these truck drivers have set forth their driving methods, which the company's Safety Director says " . . . may provide a valuable example to others in the art of safe driving." . . . Here's the symposium:

HAZEN LUCIER:—"I keep my mind on driving and use brakes instead of horn. I slow down at blind intersections and on curves. I drive at a rate of speed whereby I can stop promptly. My truck is always under control.

"I wait for the other driver, to see what he's going to do. I don't try to beat him to the corner. I keep on my own side of the road.

"Carelessness causes most accidents. The careless driver usually has his mind on something else; talking, looking at signs or something else. I give the other driver the right-of-way. I don't try to outguess him.

"I don't drive fast on icy streets and I keep a safe distance between my truck and the car ahead. I am even more careful when visibility is poor. No one should drive as fast on a rainy day as on a bright clear day. I try to be courteous at all times."

MILO JEAN:—"I use courtesy as my first precaution. Being a safe driver is part of my job. Lack of courtesy is what I think causes most accidents.

"Good mechanical equipment at all times and obeying all laws are necessary. I don't think blame for accidents can be attributed to conditions of streets. Pedestrians, young and old, should take their jobs as seriously as most drivers do and strive for greater safety."

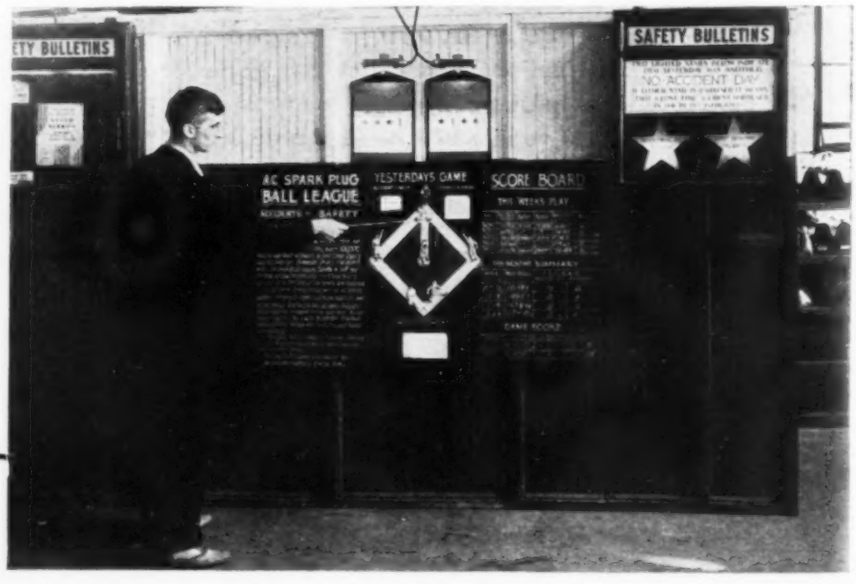
ROY BEHRENDT:—"I see that the road is clear before backing up. I drive according to the condition of the road.

"If I can avoid an accident by giving the other driver the right-of-way, I let him have it."

FRED YUCH:—"I avoid accidents by being alert, keeping within the speed limit, stopping promptly, watching the other driver and anticipating what he is going to do. I drive according to the conditions of streets and am careful all the time."

ALBERT BLUE:—"Poor judgment and carelessness have a great deal to do with the majority of accidents, not only on the part of drivers, but pedestrians as well. I find that a truck driver must be on the lookout for all types of drivers, good and indifferent.

(*Please turn to page* 62)



This view shows AC's Safety Director, Meredith Spear, with some of his safety-promotion display material—a most important activity with this Company.

PROVEN IN PRACTICE

The **PIONEER** *2 speed axle of which over 500,000 have been sold*

Increased profit through more practical operation has been the feature that has induced many thousands of truckers to install Eaton-Ruckstell 2-Speed Axles.

They start heavy loads more easily, avoiding shock loads on axle and all driving parts—make better time in hilly country, over rough roads and through heavy traffic and complete more trips over smooth roads with less gas and oil. They increase earnings through ability to adapt engine speed, power and fuel consumption more closely to the varying conditions of trip, road and load encountered under today's operations

And, without exception, operators quickly come to appreciate the engineering excellence built into the Eaton-Ruckstell 2-Speed Axle — the obvious result of years of specializing experience.

Among many outstanding features are: the extra large and rugged, *straddle mounted* pinion — the compact planetary gearing which has been proven beyond question in thousands of installations — the two *silent* high gears, and the positive and easy way of changing ratios at any speed.

You too, can learn specifically how and why an Eaton-Ruckstell 2-Speed Axle will prove to be a wise investment for your trucks under your particular kinds of operations. Write for information now.

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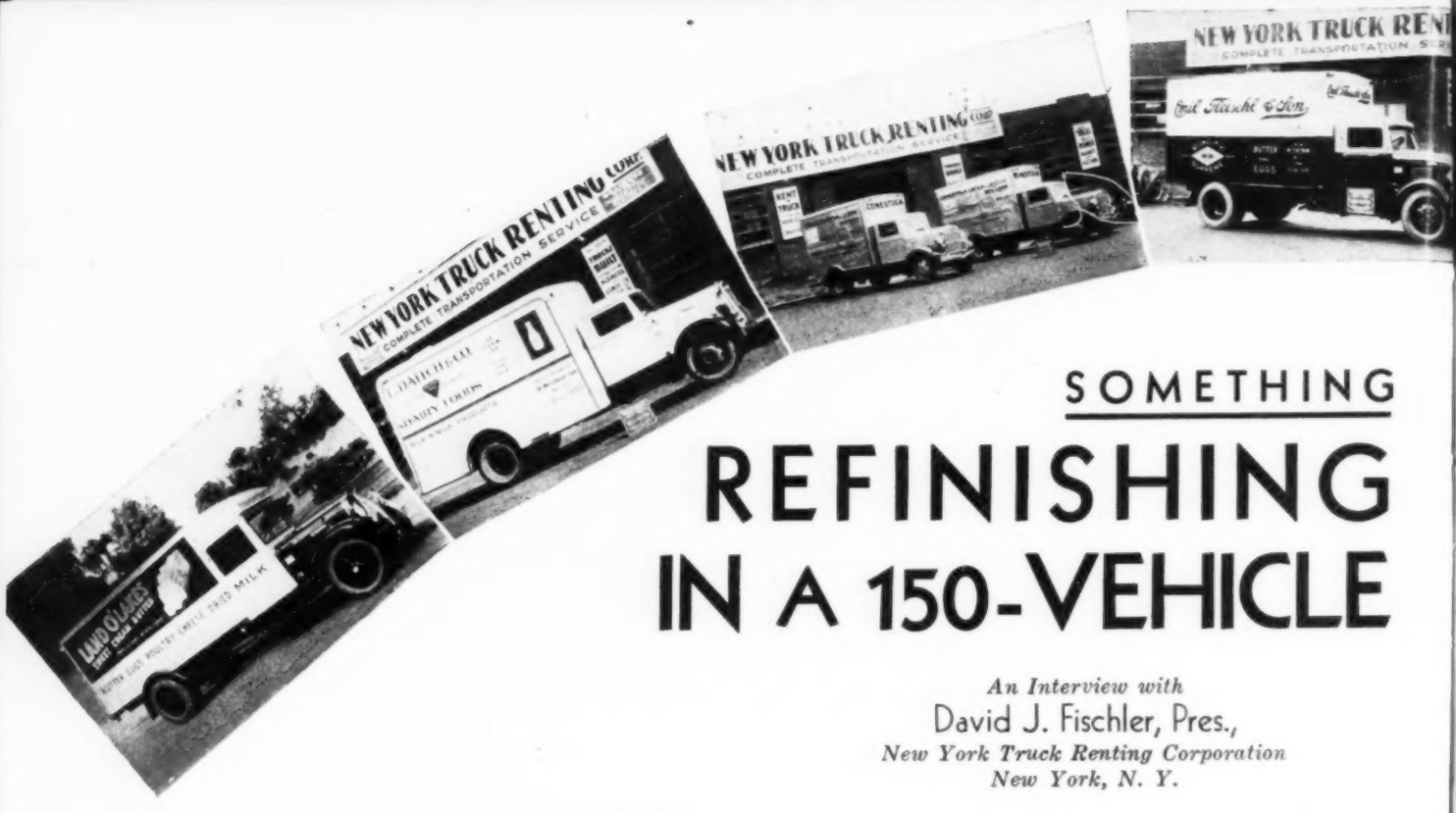
EATON 2 *Ruckstell SPEED AXLE



SOMETHING

REFINISHING IN A 150-VEHICLE

An Interview with
David J. Fischler, Pres.,
New York Truck Renting Corporation
New York, N. Y.

MANY articles on commercial vehicle refinishing have appeared in this and other truck publications. In most of these articles the general problem was a common one—each fleet had an orthodox color scheme and a more-or-less rigid schedule of refinishing was followed. Being a common problem, these systems of refinishing gravitated into the realm of standardization, and we noticed a striking similarity among them, which fact led us to seek something *different* in the way of a refinishing story.

So we struck out in quest of a fleet operation which, in our mind, would have a repaint problem that was worth talking about. Some one suggested that we might find such a condition among the "for-hire" truck renting fleets, and immediately we turned our radiator cap in the general direction of the New York Truck Renting Corporation's garage, located at 891 East 149th Street, in the upper reaches of New York City, better known as The Bronx.

Greeted genially by it's energetic president and general manager, David J. Fischler, we were ushered into the paint shop, where, fortunately, a job was in the process of refinishing, as the pictures which accompany this article will show. "But why do you say their problem is *different?*", you will next ask. So we will digress from the refinishing part of this article for a few paragraphs, in order to acquaint you will some facts concerning this truck operation and its problems that seem to be somewhat unorthodox, so far as refinishing is concerned.

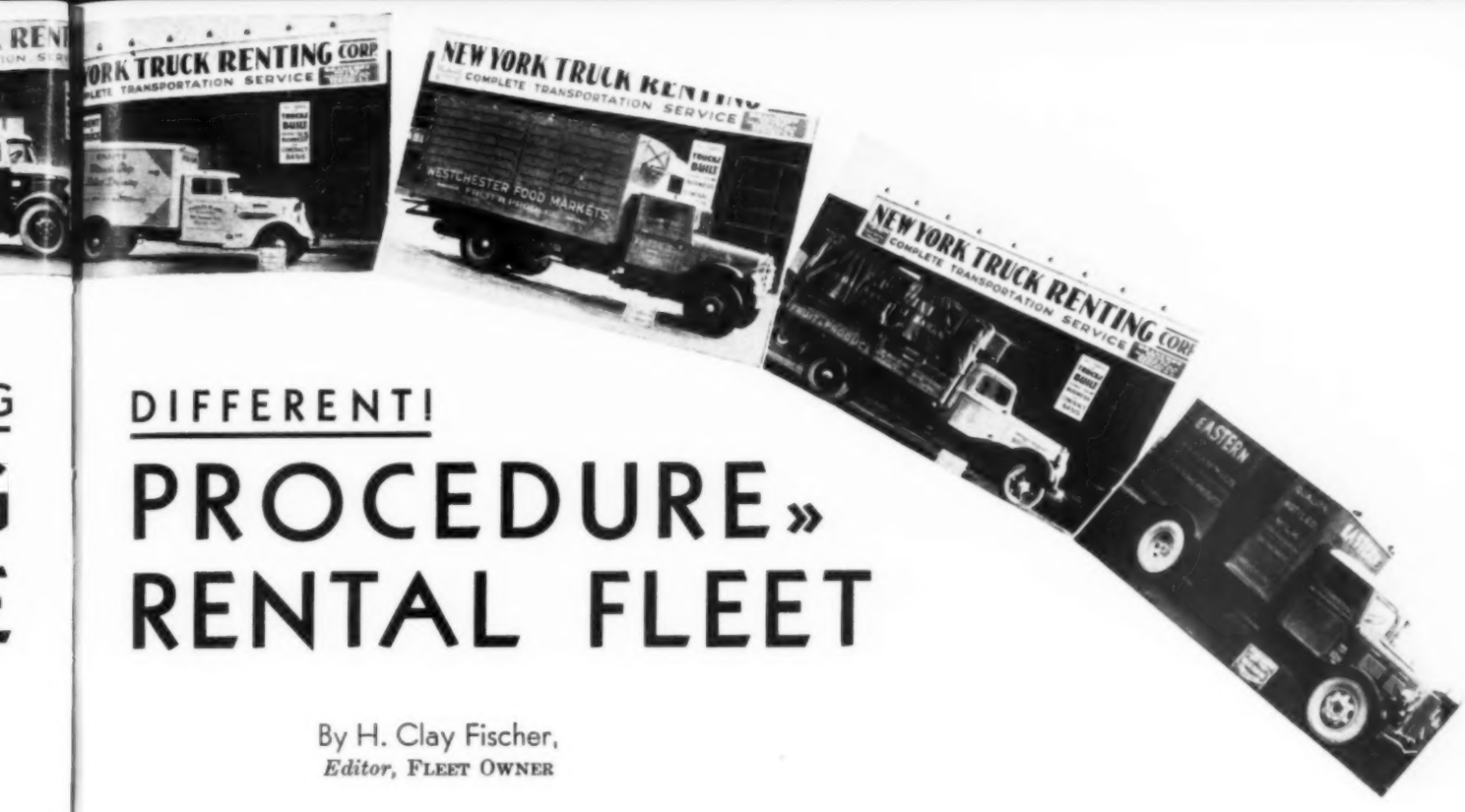
The New York Truck Renting Corporation owns and operates some 145 trucks of assorted makes, endeavoring, however, to standardize on makes so far as possible. These vehicles are furnished to leading business concerns as a "complete transportation service", whereby everything is furnished but the driver. And this includes—besides the truck—the fuel, lubricants, tires, insurance, garaging, etc., either on a flat "per mile" basis, or on a daily, weekly, monthly or annual rental.

The industries in which these trucks are used are quite diversified, and include, among others, the following: Milk and Milk Products; Meat and Meat Products; Confectionery and Tobacco; Food Products; Furniture; Carpets and Rugs; Dry Cleaning; Laundry; Dairy; Fruit and Produce; Electrical and Hardware; and Silks and Cottons. From the foregoing list of industries, it is easy to imagine what an assorted variety of trucks and bodies is required—even refrigerated jobs are used—and it should be sufficient to state that the vehicles in this "fleet" range from 1½- to 7½-ton jobs.

The first factor that prohibits the utilization of any standardized refinishing system is the one of advertising value. Each individual company which subscribes to New York Truck Renting Corporation's service, insists that its own name and trade-mark be carried on the trucks they use, and in most cases they have an elaborate color-scheme and body design of their own.

The next thing that makes this refinishing problem a difficult one is the fact that usage of motor trucks in different industries, as it is done in this fleet, imposes varying degrees of wear-and-tear on the vehicles' finish. For instance the paint on the

• A "BEAUTIFUL" PAINT JOB, THIS



DIFFERENT!

PROCEDURE» RENTAL FLEET

By H. Clay Fischer,
Editor, FLEET OWNER

milk trucks will not last as long as it will on the furniture trucks, on account of the excessive moisture, ice, salt, and natural "abuse" which trucks in the dairy business are known to suffer. The same thing holds true in the case of the meat and food products trucks.

Still another "headache" in the rental business, which makes the appearance-maintenance problem somewhat difficult, is the fact that comparatively little control is maintained over the drivers of the vehicles. These drivers are employed by the companies using the trucks and it is often difficult to get these men to treat the vehicles as though they were their very own, with the result that the finish suffers to a greater extent than in other fleets.

New York City traffic conditions impose another hardship on the finish. Streets are narrow and traffic is thick, which results in many a dig or gouge, especially to the wider bodies. Children playing in the streets are anything but considerate, and will hold sticks against the bodies as they go by; they often throw stones, dance on the hoods of parked trucks and obey that "Coney Island impulse" to slide down the fenders, feet and everything. (Tough people, these New Yorkers).

Everything considered, you will probably agree, if you have read this far, that New York Truck Renting Corporation has a particularly difficult job on their hands, in order to keep their vehicles looking presentable—both in their own minds and in their clients' minds. So we will waste no further words and will go on with the painting procedure.

A crew of three painters is on duty in this fleet at all times. Most of their time is spent in the main garage and repair shop in The Bronx—sometimes these men are "borrowed" by the company's other garages to do minor touch-up work. A complete paint-shop is maintained at the big garage, and you will always find a large stock of paints on hand, in the colors most frequently used. Of course, there is the usual equipment of air-compressor, spray guns, regulators, etc., but no electrical sanding equipment is used—the master painter believing that with their particular system they can get the best results with hand-sanding, both wet and dry.

Three different systems of paint procedure are followed, depending largely on the service to which the vehicles are put and the amount of "abuse" which they get. The first system is the "yearly" paint job. In 90% of the cases, and as a general rule, a complete refinishing of each vehicle is necessary once a year. Invariably the body finish will have suffered to the extent that it can best be reconditioned by a "down-to-the-metal" burnoff. (Chassis and wheels rarely are treated to this procedure.)

For "burning" off, the orthodox (and perhaps antiquated) method of paint removal is used, wherein "regular" liquid paint-and-varnish remover is brushed on, allowed to "work" and is then scraped off with wire brush and putty-knife. We inquired as to other methods of removing paint, but the master painter in this fleet was quite emphatic in stating that he preferred the old method, admitting that it might be a little more long-winded, but claiming that it "does

(*Please turn to page* 22)

• NOTE THE FLOODLIGHT ON THE CAB

A PAINT ARTICLE THAT'S "DIFFERENT" *(Continued)*

TWO paint jobs going through the New York Truck Renting Corporation shops . . . . The one on the left is getting the primer after a complete "burn-off" . . . . The one on the right has just been "burned-off" and is undergoing the cleaning-up operation . . . . President Fischler admits that with modern synthetic finishes he's using, he COULD get paint jobs through the shop in a couple of days, and that it's not absolutely necessary to use "clear" on top of them, as their gloss is amply sufficient . . . . But he does it just the same and his jobs take a little longer, which he believes is better economy in the long run.—H. C. F.

the work" and suits him. Chasses are not burned off; simply cleaned and refinished.

After the "burn-off" the finish is then rough-sanded down to remove anything which the wire brush and putty knife did not get, and then the whole thing is washed off with alcohol, to remove the wax. Incidentally, this alcohol comes from the same barrels as their anti-freeze does. When they are sure that the finish is clean and free from remover-wax, it gets some more sanding—first rough, then fine. Now it is ready for the paint.

The first coat is generally a metal-primer, red-oxide or gray, sprayed on. Then after an over-night dry, a coat of liquid filler is sprayed on, and all hollows, shallow spots, cracks and gouges are levelled out with a glazing compound. Four hours' drying time is allowed for the filler and glazing putty, and then the whole business is wet-sanded, ready for the color coats.

As in many other fleets, the newer types of synthetic enamel are used. Two coats are the rule—in a few cases three. The enamel is applied with the proper spray gun, starting at one end and working around. By the time the painter finishes the first coat and gets back to where he started from, it is time to apply the second coat. In other words he just sprays "round and round." The first coat of enamel is generally a light "mist" coat; the second a "full" or finishing coat. Special jobs, such as white or cream, sometimes are treated to a third coat.

After another overnight dry, the finish is again wet-sanded to cut the gloss, and to provide "hooks" for the finishing varnish to hang on. At this point the striping is done, and then the lettering or decorative work. The latter depends, of course, on the particular color scheme, design or trademark required by the user of the truck.

A professional letterer is employed for the lettering, which is invariably in gold or silver leaf. In other cases a "pictorial" artist is required, to paint "contented cows" grazing in pastures on milk units, etc., etc. In still other cases the company using the truck will have their own decal transfers, which they supply at this time for application to the trucks, making the decorative job complete.

We forgot to mention that all striping is done by one of the painters, using a good striping brush and guide. As a rule striping is done on bodies only—no striping is done on wheels, chassis, fenders, etc. Liberal use is made of masking tape for color separation, mouldings, etc. At this time, the chassis is done in one coat, brushed on, using either black, or red.

After all of the decorative work is finished and dry, one coat of finishing varnish is sprayed on. It is interesting to note that the "clear" used for this work is something that was chosen after a long period of experimentation. The particular clear used has an unusual resistance to abrasion, tree scratches, etc., and seems to protect gold leaf and decorations quite well. Its transparency is particularly good, and it is even used over whites and creams, with little, if any darkening effect.

The yearly burn-off and complete paint job is the rule, as before mentioned, on about 90 per cent of the vehicles in this operation. Conditions on the other 10 per cent often enable this fleet operator to "get away" with the refinishing job by either touching up and finishing with clear, or else by painting "around" the lettering and decorations with a color coat or two, and then a full coat of clear. Sometimes, too, it is even possible to change the color scheme without removing the old finish, but by and large, these cases are few and far between.

Fleet men who read this will wonder why a com-

(Please turn to page 59)

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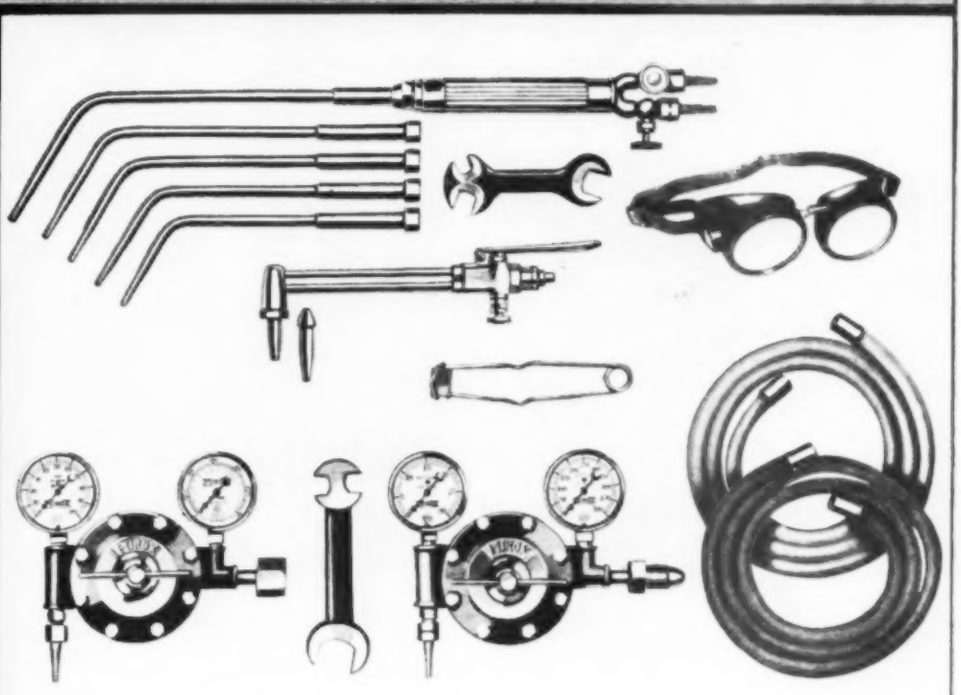

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● The Purox No. 4018 Combination Outfit is complete welding and cutting equipment for general shop work. It consists of: No. 35 Torch with five welding heads, No. 10 Oxygen Regulator, No. 30 Acetylene Regulator, No. 31 Cutting Attachment, and complete accessories as illustrated all for . . $99.00. The Linde Air Products Company, Unit of Union Carbide and Carbon Corporation, 30 East 42nd Street, New York, N. Y. Offices in principal cities.

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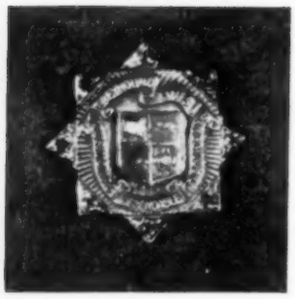


By Marcus Dow,
Manager of Safety and Personnel,
The Greyhound Management Co.,
Cleveland, Ohio

THE REWARDS of

Gem-studded badges are presented drivers of Greyhound Lines in recognition for safe driving. A diamond studded badge, similar to that shown in the top corner of the page, goes to each driver for five years driving without an accident. In the center is shown Mr. Marcus Dow presenting the Greyhound Safety Trophy to Regional Manager L. C. Major of Washington, after drivers of the Washington area had won a sixteen-weeks contest. On the opposite page at the top is shown the plaque, given each Greyhound driver, testifying as to his safe driving.

ONCE I heard a man say, "Safety is its own Reward." He was delivering a well-meant sermon on accident prevention to a group of truck drivers. What he meant was that successful safety effort keeps folks from suffering by preventing injuries or deaths due to accidents. The feeling of satisfaction that the drivers had in knowing they had helped in that effort, he thought, was the real reward they got for their effort.

From an idealistic standpoint he was right. From a practical standpoint, I think he was over-optimistic. That is, a driver who works for a concern operating a fleet of motor vehicles may earnestly desire to avoid hurting anyone, including himself, in an accident. But that highly commendable thought resting snugly in the back of his mind, might become submerged in a sea of counter-thoughts as he pilots his vehicle through the maze of traffic his route takes him.

And so, the Greyhound Lines have adopted methods of a practical nature to help bus drivers keep their minds constantly focused on safety. Something of a material nature as a reward for keeping out of accidents. Better still, they have adopted a combination, if you please, of rewards and penalties, which act as both an incentive and a prod; that enthuse and yet command. A combination, in other words, that so inspires the drivers that voluntarily they double their efforts to drive safely; that at the same time makes them remember that the loss of something they prize highly will result if they are careless.

Safety may be its own reward, but you can't show that invisible thing to your friends and say, "I earned

SAFETY

this," and then stick your chest out with pride. Of course, there may be some intangible compensation for a driver in the knowledge that he got through the day without an accident. Bus driving is a profession, and good bus drivers take pride in doing a good job in their chosen work, as do artisans of all kinds in jobs that require skill. But when the company he works for or some governmental or other authority, recognizes his safety achievement by presenting him with something in the way of a tangible award, it's "Dollars to doughnuts" he'll try harder than ever to make another good record!

If, in addition, he is penalized for accidents he can prevent, but doesn't, he feels the sharp prod of discipline and is brought to a stern realization of his shortcomings. Thus he is jolted back into sensibility after having mentally fallen down on his job of driving safely. This two-way method of promoting safety has been successfully used with drivers employed on the operations under Greyhound Management Company for several years past. And with excellent results, which will be described later. First, we'll look over this Company's methods of rewards and penalties.

Let's consider the safety button. This type of award is one of the Greyhound's successful methods of increasing safety. Of course, there is a right and wrong way of presenting a safety button to a driver. Or, let's say an effective way and an ineffective way. The wrong way—the ineffective way—would be for the boss to call the driver into his office, toss the button across his desk and say, "Well, Smith, you've won a safety button. Good work, Smith. Keep it up." Smith would probably grunt some unintelligible answer, stick the button in his pocket and forget it. There's no sense in spending money for safety buttons to present in that manner. The stage is not set properly. There is no build-up, no sincerity. "Safety Buttons" doesn't mean a thing to that driver because it apparently doesn't mean much to the official of the company who gave it to him. Just a cut-and-dried proposition—cold and uninspiring.

The proper way would be to wait until the first safety meeting. Then let the official tell everyone present that a most important matter is about to be handled. Call Smith to come forward. As he stands before the group of his fellow drivers, dispatchers, and others, the official of the company should shake his hand and congratulate him on his outstanding safety achievement. Tell him how proud the officials of the company are of him because of the fine safety record he has made. Tell him he has made a great contribution to the cause of national safety on American highways. Stress the fact that he has done something important. Let him hear the applause of the audience. That is the way we do it.

Greyhound drivers have been "sold" on the value of a safety button. They know it is something mere money can't buy. They know that real achievement is the thing that puts immeasurable value into the button they wear. They know it is an exhibit which proves to the world that they have a very special ability. Many drivers wear them constantly. Others keep them under lock and key as prized possessions to show their friends.

Our safety buttons are made more valuable to the drivers by changing the style of the button and increasing its intrinsic worth for successive years of safe driving. A gold button, which is a replica of the Greyhound trademark, or coat-of-arms, and bearing the words "One Year No-Accidents" is awarded for going through one year with an unblemished safety record. If that record continues through a second consecutive year the coat-of-arms set in an eight-point gold star studded with pearls is the award. For three consecutive years with a clear safety record a similar button set with rubies is the award. For four years the stones are sapphires and for five years a diamond studded button is the award.

To further enhance the value of the buttons a certificate is given with each, bearing the driver's name and stating the period of years through which the driver maintained a perfect safety record. For the first and second year the certificate is on a card the size of an annual pass. With the third year's award the certificate is engraved on a bronze pocket plaque. The fourth year on a silver pocket plaque, and the fifth year on a gold plaque. When the five-year safety button is awarded the driver also receives an annual pass as an added award. Unblemished safety records that go beyond the fifth year period are awarded by presenting a new uniform and a framed certificate.

Greyhound drivers are inspired to achieve good safety records by creating in them a spirit of enthusiasm for safety. We have found that our regional safety contests with cash awards, a banquet, and a trophy to the winners is a highly successful accident prevention serum. It creates a *will* to be careful. Persistent determination on the part of all the men employed on a division or in an operating region to "bring home the bacon" is the result of a well conducted contest.

Recently at one of our safety banquets, the Chief Dispatcher, who had taken an active part in leading

(*Please turn to page* 26)

the drivers of his region to victory, was selected to officially accept the safety trophy. As the cup was handed to him the three hundred persons present, drivers, mechanics, helpers, and their wives, sisters, or girl friends, burst into a frenzy of applause and cheering that lasted for several minutes. It was a demonstration that will linger long in the memory of those who witnessed it. It was pent-up enthusiasm let loose. After four months of patient, dogged effort, spurred on day after day by leaders who cautioned, cajoled and entreated, they had made an outstanding fleet safety record. They had won! The trophy was theirs. Their hopes were realized. A banquet and dance with good music and entertainment was being given in their honor. A cash prize nestled deep in the pocket of each driver. They had achieved something worth-while and had received a recognition which they could see and feel; which they could understand and gloat over.

And similar scenes take place time after time at our safety trophy presentations. It is because the real, the human side of the individual driver has been reached in a way no other method could accomplish so well. It does take good leadership to make a safety contest successful. Good leadership has been behind successful battles the world over from time immemorial. Figuratively speaking, the boss has got to get up on the back of a horse and ride at the front of the column, waving his men on. This safety leadership prevails throughout the Greyhound system.

Now, about those penalties. I spoke of them back a ways. They dovetail in with this whole scheme of awards. Fair, unprejudiced discipline is the backbone of our safety program. Greyhound drivers all get a bonus which is added to each pay check. But if they cause an accident, or even if they have an accident caused by someone else but which they could have avoided by greater alertness—off comes the bonus from the next pay check. Perhaps it comes off two, three, or four pay checks, according to how serious was their neglect or how often previously they had been disciplined. But the discipline is always corrective in the matter of its administration. The fault or neglect is pointed out to the driver. Discipline thus becomes educational in its effect. The driver who is thus corrected usually makes certain that it won't happen again.

Removal from service on account of a poor safety record is becoming more and more infrequent in our organization. The necessity for it has decreased. As a matter of fact, the award of safety buttons and the safety contests have created a fine safety morale among the drivers and this has helped make the need for penalties and disciplinary action much less frequent than it otherwise could be.

Some years ago we created the grade of Star Driver. A driver must earn a three-year safety button before he can even be considered for this appointment. Then his record in other respects must be satisfactory. His appointment as Star Driver increases the amount of his monthly bonus and he wears a gold star on each coat lapel. We've got a lot of Star Drivers. They worked hard to get their stars and are working hard not to lose them. They must keep up the record they have established to retain them and the extra bonus that goes with them.

These awards and bonuses are effective, of course, only if you have capable men who know how to drive, who have good character, who are physically fit and who know exactly what unsafe driving practices to avoid. This means new drivers must be selected carefully. They must have good records behind them. They must be investigated to find this out before they are employed. Then they must be physically examined at the time of employment and periodically thereafter. They must have rules to guide them. We follow such a formula. The Greyhound driver's school turns out a lot of good men each year. The instruction is thorough, with safety the predominating subject in the curriculum.

The Safety Committee of the National Association of Motor Bus Operators, of which Committee the writer is Chairman, have made a report to all member companies recently, setting forth Ten Safety Commandments for Motor Vehicle Drivers. These ten rules are included in the driver's rules for Greyhound drivers and they are carefully instructed and supervised to see that these rules are observed. These ten practical safety rules almost insure a driver becoming eligible for a safety button or other award. I mention this, for the reason that all of the enthusiasm you can create for safety would be lost if the driver was ignorant as to what consti-

(*Please turn to page* 60)

GREYHOUND'S TEN COMMANDMENTS FOR SAFE DRIVING

1. Keep to right of center line of highway.
2. Pass overtaken vehicles on left, but only after sounding horn and only when road ahead is so clear as to permit getting back to the right with a safe clearance and with a wide margin of safety.
3. Under no circumstances attempt to pass an overtaken vehicle at an intersection, on a curve, or approaching the crown of a hill.
4. At intersections, be prepared to stop if vehicle on intersecting road is moving onto intersection and do not try to take the right of way, as the other driver may not have control of his vehicle.
5. Keep far enough back of the vehicle ahead to allow a safe braking distance in the event that other vehicle makes a sudden stop. Except in emergency, do not stop so suddenly as to cause collision by following vehicle.
6. Signal before making a turn, and further insure safety by looking to see whether a vehicle is approaching from the rear. Wait before pulling out from the curb until making such observation. Again, remember that the approaching vehicle may not be under control.
7. Always keep both hands on steering wheel and eyes on the road ahead while driving. Look behind before backing.
8. Stop before crossing all railroads and after carefully looking in both directions and listening, proceed only if it is safe beyond any possible doubt and then in low gear, gears not being shifted until all tracks have been cleared.
9. When stopping on highway, pull as far off hard surface as road conditions permit and where the stop is prolonged, see that the rear of vehicle is adequately protected.
10. Do not operate at excessive speed at any time. At curves, blind crossings, crests of hills, in fog or wherever view is curtailed, reduce speed to be able to stop within the distance of clear vision.

VOTE FOR BLACKHAWK HYDRAULIC JACKS

22 MODELS · 1 TO 75 TONS

COMPACT and RUGGED

OPERATE VERTICALLY OR HORIZONTALLY

POSITIVE SCREW TYPE RELEASE VALVE

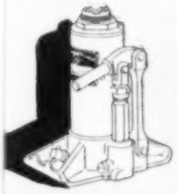
SIMPLE, TROUBLE-PROOF VALVE CONSTRUCTION

CASTING A UNANIMOUS VOTE FOR BLACKHAWK

"My vote goes to the M-7.3. This squatty 5-tonner boosts up heavy trucks or buses without disturbing load or passengers." — Driver. Price $23.00*

"I'm strong for the D-8.7 — a 12-ton shop worker that can't be beat." —Shop man. Price $20.70*

"The AA-8.5 gets my vote. Sturdy, compact —5-ton Light-Heavy— and a fast, easy lifter." —Fleet Owner. Price $10.85*



"I need a husky that will stand the gaff of heavy duty jobs—so I check on this CB9 8-tonner." —Trucker. Price $14.15*

WHAT a landslide! Throughout the country leading truck and bus makers, fleet operators, shop-men and drivers are voting the straight Blackhawk ticket! They KNOW from actual experience that Blackhawk Hydraulic Jacks have EVERYTHING. Power galore — dependability—wide range of uses—easy operation — micro-control — safety. Yes Sir! — they save time and money—and make money, too!

NEW LOW PRICES!

Now Blackhawk offers greater values than ever with lower prices. Get on the Blackhawk band-wagon—and ride to success with the line of hydraulic jacks that have won the nation's vote for all-around supremacy!

Ask your Jobber Salesman about Blackhawk's full line of hydraulics—1 to 75 tons. Write for free literature. Better still — order NOW!

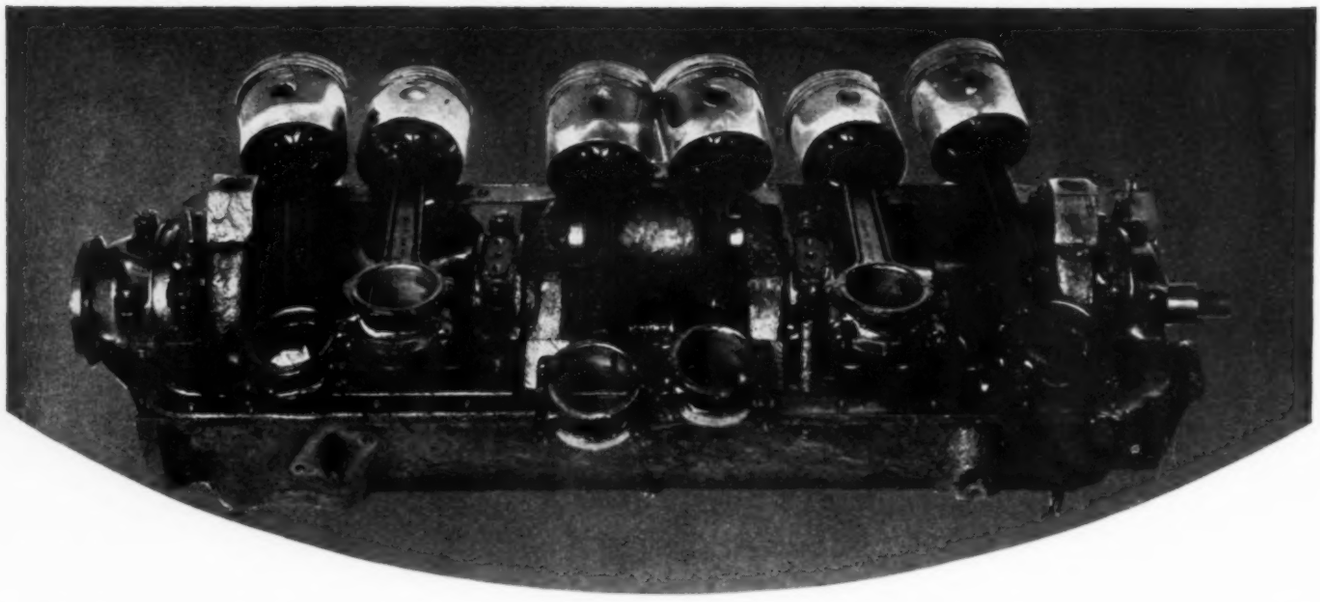
BLACKHAWK MFG. COMPANY

DEPT. FO-7 MILWAUKEE, WISCONSIN

*Prices slightly higher on West Coast and Canada.

Model EA-11. A 20-ton job—11" Low—hydraulic lift 6½"— total High 17½". Price $35.00*

BLACKHAWK HYDRAULIC JACKS



Why Change to Summer Lubricants?

THERE are many sound reasons for changing crankcase oil from winter to summer grades at this time of the year and even sooner. We know that a simple listing of the "reasons why" will be ample to bring the facts home to thoughtful fleet operators who have the following uppermost in mind: (a) insurance against breakdown of equipment in service; (b) maximum protection against wear and depreciation of costly equipment; (c) maximum economy in maintenance costs.

The reasons, while self-evident, are presented here with the thought in mind that they might at least refresh a few memories; some of them might even be *new* to some operators. Here they are:

1. Summer operation is normal operation; hence the summer oil recommendations made by lubrication engineers represent the grades best suited to the design characteristics of the engine when operated in normal summer service—*hence they provide the greatest margin of safety against lubrication failure.*

2. It follows that the winter oil recommendation is a "safety first" recommendation; some of the richness in body and character of the normal summer oil is sacrificed in order to obtain (a) easy starting; (b) immediate oil circulation with chilled oil. No winter oils provide the same factor of safety in summer operation as the normal summer oil selected because it is best suited to the mechanical features of engine design and the characteristic temperatures encountered in service.

By E. F. Hallock,
Lubrication Engineer

3. If the winter oil now in the crankcase has not been changed within 500 miles, it will contain dirt which accumulates in *any* oil in service.

There will be present (a) much of the grit filtered from approximately 75,000 cubic feet of air which have passed through the intake system of this engine during 500 miles of driving plus an additional 6,000 cubic feet of air which have passed directly through the crankcase in order to provide ventilation; (b) particles of metallic wear normal to engine service; (c) some granules of carbon flaking from the undersides of the pistons; (d) some very finely divided carbon accruing from the presence of smoke in the products of combustion which are blown past the pistons.

This "blow-by" is always exaggerated in winter service due to greater use of the choke in starting, which breaks the oil seal on the rings; and the inherent lightness of the "safety first" winter oil which provides a lessened margin of safety against blow-by.

The amount of this dirt present in the oil at the 500-mile point will depend upon (a) effectiveness of air cleaners, if any—and their state of cleanliness; (b) effectiveness of oil filters, if any—and their state of cleanliness; (c) climatic conditions affecting amount of dust in air; (d) engine characteristics and its mechanical condition and adjustment; (e) type of service.

Averages from all types of commercial vehicles encompassing all variables cited above show clearly the presence of sufficient dirt to make it economical to change. (Note: Under (a) and (b) these devices often suffer from lack of efficiency and lack of care—and are by no means standard equipment on all commercial vehicles.)

4. In consideration of the presence of dirt as above, and its abrasive nature, it does more damage in promoting wear in thin winter oil than in heavier-bodied summer oil. This is because thin oil provides less separation between heavily-loaded bearing surfaces than heavier oils—hence particles small enough when suspended in the film provided by a heavy oil, will be of sufficient diameter to contact and abrade both surfaces when suspended in the physically thinner films provided by light-bodied winter oils.

This is of extreme importance with modern equipment where we are dealing with a multitude of very hard bearing types—copper-lead, bronze-lead, silver-cadmium and nickel-cadmium. With softer babbitt liners, the grit imbeds and does not scratch; with these newer and harder liners, the grit scratches both bearing and shaft.

Exaggerated wear on these bearings is one of the

(*Please turn to page* 29)

causes of factory worry today—and is reflected in a move away from the very light oil recommendations which issued from the factories a year ago.

5. The frequent cold starts incidental to winter driving, coupled with the general use of lighter oil and excessive use of the choke, result in dilution of the crankcase oil with fuel. The amount of dilution is dependent upon (a) engine characteristics affecting its operating temperatures; (b) operating conditions —chiefly the contrast between intermittent short-drive city service as against long high-speed drives which promote high temperatures; (c) mechanical condition and adjustment; (d) climatic conditions; (e) fuel characteristics.

This dilution often thins the winter oil further than is necessary to secure easy starting and certainty of distribution—and where all conditions are favorable for its accumulation, reduces the factor of safety against wear to an alarming degree.

6. Cold weather operation —particularly on cool-running engines in intermittent service—results in the condensation of water in the crankcase. Water is formed as one of the products of combustion of the fuel—for every gallon of gas burned we form an amount of H_2O in the form of steam which, if condensed into water, would form approximately a gallon.

Some of this steam blows by the pistons, reaches the crankcase, chills and condenses; if the machine is subsequently run hard enough to develop crankcase temperatures high enough to evaporate this moisture, the crankcase ventilating system carries it off—if not, moisture remains in the crankcase in harmful amounts.

The water itself is not a source of great danger—except in those cases where it settles around screens and in oil pumps and freezes during a cold snap with consequent oil stoppage and pump shaft breakage; or where equipment is stored for a long period with water present, in which case rusting of the bright parts such as cam surfaces, etc., is promoted by the moisture accelerated by such corrosive products of combustion as may be dissolved in it.

The *real* danger lies in the ability of this water to form a stable emulsion with the oil, when the oil is diluted with the grit normally acquired in 500 miles of winter service. This dirt acts as a binder; oil and water, which normally do not mix, go together readily when finely divided carbon and other forms of grit are present—and do not separate again. These sticky, gummy emulsions clog oil screens, clog filters and pollute the crankcase.

The only way to prevent their formation is to drain the crankcase frequently to get rid of the dirt and moisture which do the damage. Their possibilities for mischief are so great where neglect fosters their formation that all competent lubrication engineers make their "safety first" winter draining periods 500 miles instead of 1,000 miles which, with heavier summer oils, under temperatures where moisture condensation is not encountered, is a safe average draining period.

The quality of the oil has no practical bearing on the formation of these emulsions —the best of oils plus moisture plus dirt results in emulsions.

These facts—demonstrable by observation when filters that have been run all winter on equipment which has been run cold are opened up —should be stressed to fleet operating personnel as one of the "demand" reasons for spring draining and refilling.

Transmissions and rear ends should receive special attention, too, with respect to summer lubricants. Winter gear oils—like engine oils — are "safety first" grades to secure easy gear shifting and immediate circulation from cold. They are too light for proper protection under the tremendous gear tooth loads and high temperatures accruing from summer service.

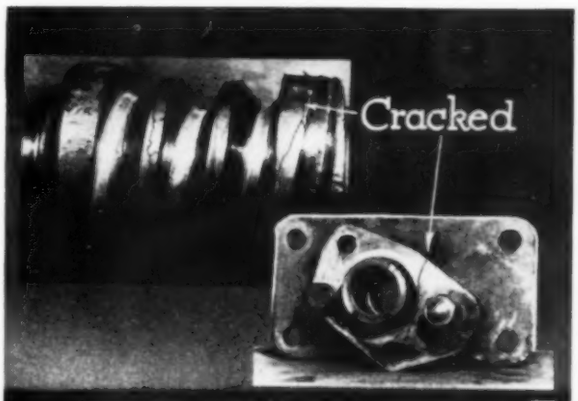
Modern gears are much more heavily loaded than those of several years back due to (a) higher engine outputs; (b) reduced gear dimensions made possible by the use of stronger alloy steels for gears.

Indicative of this trend is the need for E.P.—extreme pressure—gear oils on some designs. Hence it is tremendously important that light "safety first" winter gear oils be changed to heavier summer grades as soon as climatic conditions permit.

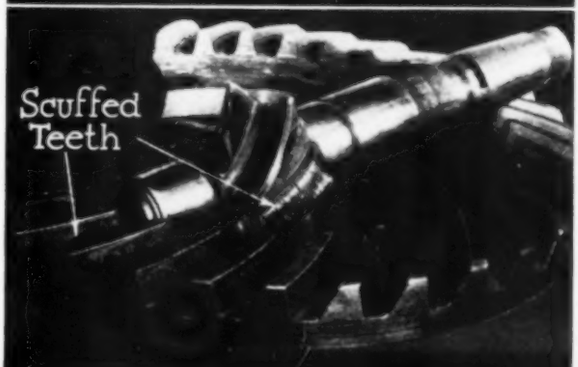
Gear oils as well as motor oils become contaminated in service due to (a) gear tooth chipping encountered in gear shifting; (b) moisture condensation during winter due to breathing of the gear

(*Please turn to page* 62)

GEAR cases and fittings should not be overlooked with respect to summer lubricants. These three failures all resulted because of lack of, or faulty lubrication . . . . Need we say more?—Editor.



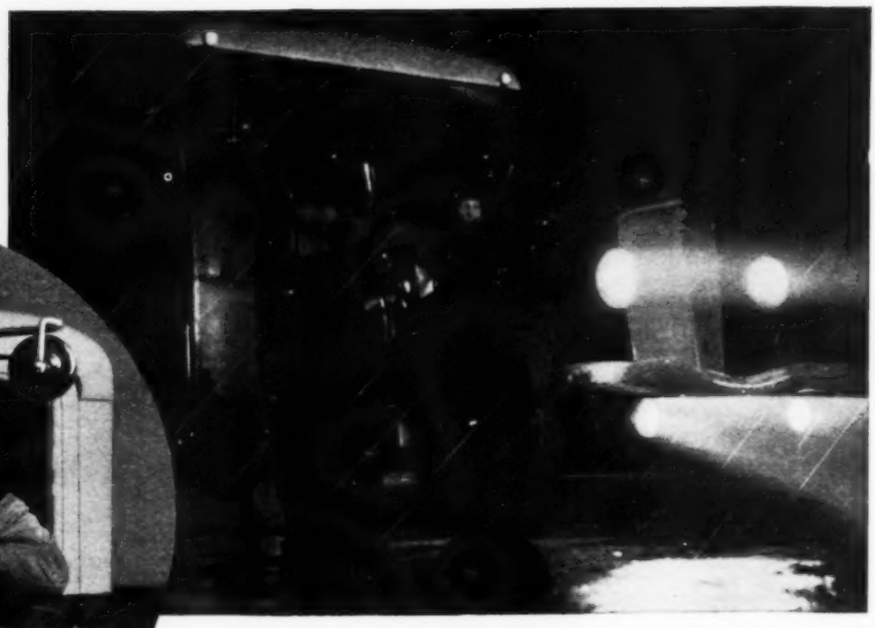
STEERING WORM AND HOUSING 1



PINION AND RING GEAR---RESULT OF IMPROPER LUBRICATION 2

3

By J. M. Sharpe,
Automotive Division,
Appleton Electric Company.



"LIGHTS"

ONE of the most important factors in assuring proper visibility at night is correct and effective lighting equipment. According to statistics, there are twice as many fatal accidents after dark as in daylight, even though there are fewer motor vehicles on the highways. Many of these accidents can undoubtedly be traced to improper lighting equipment. Lighting, therefore, is a subject of vital importance to the fleet operator, as if the ability to see and to be seen is handicapped, all other safety precautions are of little avail.

It is easy to create candle-power and a light that will throw any kind of pattern out ahead of the vehicle, either in the form of a concentrated spot or a wide spread extending from one side of the road to the other. The real problem is to control the beams so as to prevent glare and resulting blindness. Hence, manufacturers of lights and vehicles are giving more attention today than ever before to the control of headlight beams.

One good rule to follow is to have enough lights so that the driver can see an object far enough ahead to permit stopping in time when traveling at the vehicle's maximum speed. If we are traveling at a speed of 40 miles an hour, our forward motion is equivalent to 58.7 feet each second. Assuming that under these conditions our headlamps are lighting the highway only 250 to 300 feet ahead and that beyond that point is darkness, the danger of night driving is readily apparent.

The average person requires almost a full second to react to an emergency before applying his brakes, in which time he has traveled 58.7 feet at 40 miles an hour. If his brakes are in perfect condition, an additional 78.2 feet is required to stop after the brakes are applied. Lights must be in good condition if emergencies are to be met safely. Poor visibility always increases the reaction time, and this is especially true at night.

Two factors are beyond the control of the manufacturer in designing and attempting to control headlight beams. One is the condition of the road, for the slightest rise in the pavement throws the headlight beam high enough to strike the eye-level of oncoming drivers. The other is rear load or weight. If, for instance, a passenger car or truck is tested in front of an official headlight chart and the headlights are adjusted to proper specifications, the beams will be raised to eye-level by the addition of rear seat passengers, or, in the case of a truck, by the load weight in the body. Nothing can be done by the manufacturers to control these factors.

It is to cope with dangers of this type and provide better visibility, especially at the edge of the road, that spotlights have been developed. A pre-focused spotlight that will throw a powerful beam 1,500 feet, and at the same time control this beam so that no part of it crosses the center line of the road, is a valuable aid to safe driving. Such equipment eliminates chances of glare regardless of the tilt of the vehicle or the light.

Many fleet operators have equipped their trucks with spotlights so as to assure the best possible visibility for their drivers by illuminating only the right side of the road and not interfering with oncoming traffic. Good drivers, of course, who use spotlights always turn the light out or lower it momentarily when meeting an oncoming vehicle on a right-hand curve or turn, as in such a situation the light would sweep the left side of the highway.

Trucks and buses are required to maintain definite schedules under all sorts of weather conditions the year round. Every driver and operator knows the dangers of fog, snow, and wet pavement, especially at night. These are hazards that take a heavy toll annually, contributing as they do to eye and body fatigue that so often leads to accidents.

Fog-lights of a recently developed type present the greatest safeguard in bad weather driving. There

(*Please turn to page* 61)

MAKE THIS EASY, PROFITABLE CHECK ON YOUR COST-PER-MILE

CHANGING TO SOVAC

Many Operators have Discovered Amazing Facts from Tests Run on Sovac Oil

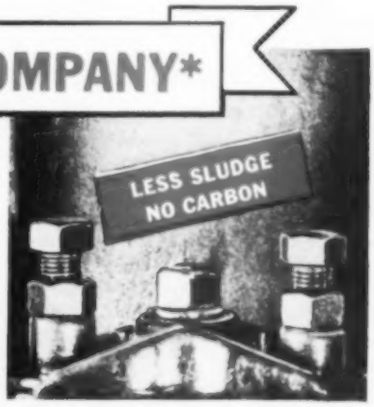
THOUSANDS OF FLEET OWNERS have reduced their costs in this simple way—they changed to Sovac Oil . . . found it cut operating expenses!

This is not just "another oil" story. It's a record of facts—that you can easily prove.

Fill up any crankcase . . . maintain the regular schedule. We'll let results do the rest of the talking! Below you see results typical of others obtained by Sovac on operations where hustling superintendents believed costs already at a minimum.

Ask our engineer how Socony-Vacuum's Clearosol Process removes gum and carbon-forming elements from oil . . . about the savings Sovac is earning on operations similar to yours. Then let him help your men make this practical check on your cost-per-mile.

WHAT SOVAC SAVED FOR ONE COMPANY*



**We'll be glad to furnish you full details on this and other examples of Sovac savings.*

SOCONY-VACUUM OIL CO., INC.

STANDARD OIL OF NEW YORK DIVISION · WHITE STAR DIVISION · LUBRITE DIVISION · WHITE EAGLE DIVISION
WADHAMS OIL COMPANY · MAGNOLIA PETROLEUM COMPANY · GENERAL PETROLEUM CORPORATION OF CALIFORNIA

SOCONY-VACUUM

• NEWS *of the* TRUCK INDUSTRY •

New Studebaker Branch in Pittsburgh

STUDEBAKER announces the establishment of a factory-operated wholesale branch in Pittsburgh, Pa., under the direction of P. A. Rumpf. . . . This branch and salesroom are located at 5303 Baum Boulevard. A parts depot is being established and the branch will exhibit every model manufactured by Studebaker. . . . F. L. Beelby has been appointed assistant manager for the Pittsburgh territory.

•

"Truxmore" Opens New N. Y. Plant

TRUCK Equipment Company of Buffalo, N. Y., announces the enlarging of their Metropolitan New York sales and service facilities, due to increased demand for "Truxmore" Third Axles, Trailers, Gravity Springs and other products manufactured by them. . . . The new direct factory branch is located at 4536 37th St., Long Island City, N. Y.; the telephone number is STilwell 4-2276. . . . L. R. Ruoff is in charge of the new branch.

•

Orders 27 Diesel-Electric Buses

A FLEET of 27 Diesel-Electric buses has been ordered by Public Service Coordinated Transport, Newark, N. J., delivery of which is expected within a few months. . . . The power-plant is mounted across the rear of the bus, and consists of a Hercules Diesel engine direct-connected to General Electric equipment. A single electric motor will propel the buses. . . . Transit-type bodies will be used.

•

New Sleeper-Cab by Dodge

DODGE announces a new, restyled sleeper-cab and chassis designed for long-haul work. . . . The cab gives greater comfort and better appearance and features improved ventilation, more comfortable seat cushions, full-width sleeping berth, large luggage compartment, etc. . . . All windows in the new sleeper-cab may be easily opened. Brace irons add to the strength and durability. . . . Further details on request.

AAA Supervises Truck Tests

TWELVE department stores in as many cities are cooperating with the Chevrolet Motor Company in staging a unique test of delivery truck operation. . . . For thirty days each truck will be under the official observation of the AAA, which will keep an exact record of its performance and operating costs. . . . Department stores that are cooperating are in Atlanta, Boston, Chicago, Dallas, Denver, Detroit, Los Angeles, Milwaukee, New York, Philadelphia, St. Louis and Washington.

•

A Six-Wheeler in the Oil Fields

THIS interesting unit, operated by the Sperry-Sun Well Surveying Company of Philadelphia, Pa., is used in the oil-fields of Texas for well-drilling and surveying work. . . . The capacity of this Autocar job was increased by the addition of a Utility third axle, or six-wheel attachment.

. . . Note the short body immediately behind the cab, which we presume is for tools and equipment. Directly aft of this may be seen a powerful hauling winch, operated by a power take-off. . . . This picture comes to us through the courtesy of Utility Trailer Company, Los Angeles, Calif.

•

Mallory Develops Oil-Burner Ignition

MALLORY Electric Corporation has developed an ignition system for oil-burning engines, engines using low-grade fuels, and engines operating on cold carburetion. . . . The new system uses distributor, special magnetic circuit transformer (coil), double breaker points, condensers and resistance units. . . . It is said to give an exceptionally hot spark suitable for burning low-grade fuel oils in spark-ignition engines.

Reo Increases Production Capacity

INCREASED production capacity on Reo Speed Wagons and Trucks, as well as substantial economies, will result from a consolidation of manufacturing departments recently announced by R. A. DeVlieg, vice-president in charge of manufacturing of the Reo Motor Car Company, Lansing, Mich. New and up-to-date machinery have been installed, and the plant modernized.

•

Walter Jerome Joins White

WHITE Motor Company announces the appointment of Walter F. Jerome as manager of their Electric Railway Sales Division. . . . Mr. Jerome was formerly assistant to the president of the Baltimore Transit Company. He will be located in Cleveland. . . . Best wishes, Mr. Jerome!

•

Fletcher Joins Gar Wood Industries

GAR WOOD Industries announces the appointment of W. E. Fletcher as sales manager of the Tank Division of their organization. . . . Mr. Fletcher comes from the Fruehauf Trailer Company, Detroit, where he was manager of their oil division for the past eight years. . . . Before his Fruehauf connection, he was associated with the Standard Oil Company.

•

FWD Issues Pole Derrick Book

FOUR-WHEEL-DRIVE Auto Company, Clintonville, Wis., has recently issued a 20-page booklet featuring Graybar Pole Derricks, sponsored by its Utility Supply Division. . . . Space is also given to the U-Series, all steel, line construction and maintenance bodies, and to the various public utility necessities manufactured by the Company. . . . Free copies may be secured by writing directly to the address above, mentioning FLEET OWNER, if you please.

•

Federal Completes Large U. S. Order

MEMBERS of the National Guard of New York, New Jersey, and Utah, and officers and enlisted men of the Quartermaster Corps., Camp Holabird, Md., delivered to their destinations recently, 118 of the 193 Army motor trucks recently completed by the Federal Motor Truck Company for the War Department. . . . The remainder of the trucks were shipped by rail to various army posts.

•

Super Joins Linderman Staff

LINDERMAN Devices, Inc., announces the appointment of Ralph K. Super as Chief engineer. . . . For the past six and a half years he has been in charge of the development and application of brake equipment at Mack-International Motor Company. . . . Also announced by Linderman is the appointment of H. D. Roling as chief draftsman.

Selecting Truck Colors to Prevent Accidents

SOME suggestions advanced by National Safety Council and American Trucking Associations, Inc., on how to prevent accidents by painting your vehicles in "accident-reducing" hues. . . . Of course, if you have an orthodox color-scheme that can't be changed, this advice will be taboo.—H. C. F.

ORGANIZATIONS attempting to delve deeper into the many causes of highway accidents have learned from their experience that many truck operators can safeguard their vehicles against highway hazards by the simple expedient of painting such equipment in those colors that will afford the maximum visibility under all kinds of varying conditions.

For example, light-colored paint jobs on trucks are a distinct safety aid, says W. A. Lindberg, color engineer for the Chrysler Corporation. In an informal check which he made on motor vehicle collisions, it was found that in a large percentage of the cases, either one or both of the cars involved was painted black or a very dark color. This is particularly true at night when the superior visibility of the lighter colored cars is more pronounced than in the daytime.

In addition to the value of the lighter colors in preventing accidents at night, they serve to accentuate the appearance of motion. A light colored car appears to be moving while a dark one seems static.

Rear-end collisions can be serious, especially with heavy equipment, which may have to stop on the open road where there are narrow shoulders, or where the condition of the shoulders forces the driver to keep his truck on the paved surface.

Heavily-laden trucks, unable to maintain high speed on grades, also are subject to rear-end collisions at night and in bad weather.

Lights often give poor visibility and in addition it is difficult at night to gauge the speed of a vehicle ahead by red tail lights and others that may be visible.

Much can be done to overcome this poor visibility by proper painting. Some colors absorb more light; some colors reflect more.

The National Safety Council has collected information on the subject of color and painting for all types of motor vehicles, and has permitted ATA to disseminate it to the industry.

General Electric Company and certain paint manufacturers supplied the National Safety Council with information as to the percentage of incandescent light reflected by various colors, as shown in the table on this page.

From this tabulation it is evident that certain colors are preferable for truck painting. Another item of consideration, however, is the finish. A dull surface is most desirable for diffusion of light from a large surface, such as a truck. A glossy surface reflects light beams, like a mirror, therefore on curves and grades, a headlight beam striking a glossy surface will not make that surface as easily visible as if the surface were a dull finished one.

The National Safety Council suggests that by scientific research truck operators may be able to establish color schemes and designs which will make equipment more visible, just as equipment was made less visible in the world war. Thus consideration also must be given to contrasts. Greens and some blues probably would not contrast with woods and fields which would be the background of a truck on the open road. Similarly, whites of various kinds, most desirable from reflection standpoint, would give no contrast against a background of snow or ice.

The Council suggests, therefore, that white or light-colored vehicles, for winter use, should have the rear end cross striped, at least the lower

(*Please turn to page* 62)

LIGHT REFLECTION VALUE OF VARIOUS COLORS:

White (gloss)	84%
White (flat)	82%
White (eggshell)	81%
Ivory White	79%
Cream	74%
Aluminum	73%
Ivory Tan	67%
Light Green	62%
Yellow	60%
Light Grey	59%
Buff	55%
Light Blue	52%
Medium Green	49%
Tan	48%
Medium Blue	43%
Orange	40%
French Grey	32%
Dark Red	14%
Dark Green	10%
Dark Blue	9%
Black	2%

Eliminating Noise *in* Car Radios

IN automotive radios, as in any type of radio receiver, unwanted noise will always come from either of two sources. Very often the operator, by the use of a little logic, can determine the cause of his radio difficulties and, in many instances, straighten out the trouble himself. The two broad classifications into which all causes of radio noises fall are as follows:

1. Internal—Within the set, or its associated apparatus, due to structural defects.

2. External—Due to interference caused by electrical apparatus close to the receiver or its antenna.

The first type of difficulty can be subdivided into two classes as follows:

a. Electrical—Broken-down parts within the set.

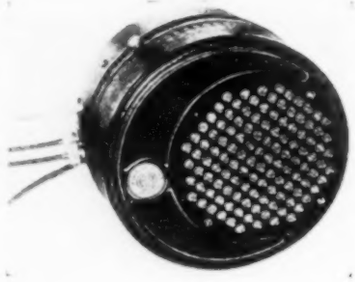
b. Mechanical—Either vibration of parts or loose connections in the set itself, or in its connections to the battery, control panel and antenna.

It is easy for anyone to find out which case covers his trouble. The car should be driven to some park or residential neighborhood, away from power lines and commercial electrical apparatus. This will eliminate the possibility of noise from these sources which may cause errors in diagnosis. The radio should be first tried with the car and motor stopped. If no more noise than that in a good home radio set is present, then the difficulty is probably not an internal electrical one.

However, it still might be an internal mechanical defect. Strike the set several smart blows with the flat of the hand. If this is not productive of results, try a *judicious* prying, shaking and tugging of every cable leading from the set. If none of these means brings on the racket, then the trouble almost certainly is not in the first classification.

If, somewhere in the foregoing procedure, the noise has put in an appearance, then the operator should determine the proper course of action. If the trouble is an electrical or mechanical one inside the receiver itself, the operator should not, under any circumstances, attempt to repair it himself unless he is *well acquainted* with the intricacies of radio repairing. Innocent appearing screws are often used for making delicate adjustments. Any disturbance of these would necessitate rebalancing the receiver, a rather expensive job. However, if the difficulty manifests itself in the associated wiring and apparatus, a visual inspection of the offending part will usually indicate the proper procedure.

If the noise has not manifested itself after this routine, it will be necessary to check over the electrical system of the car to determine which of the various units is the offender. Noise from sources external to the set will almost always be found to originate in the electrical system of the car.



Certain car-radios are now "round" and this is said to provide the best tone with a minimum of distortion

Broadly speaking, it is always a spark that is at the root of the trouble, but, paradoxically enough, it is not the spark itself that creates the disturbance. Technically, it is an oscillatory current set up by the spark that is the direct offender. It is fortunate that this is the case, since the gasoline engine depends on sparks for its operation and if we had to eliminate the sparks to gain quiet reception, motoring to the strains of radio music would be impossible. As it is, with the aid of suitable equipment we are able to eliminate the bad effects of the sparks without affecting the sparks themselves.

In an automobile engine there are several places in which sparking occurs in normal operation. They are, as we all know, the spark plugs, distributor rotor system, breaker points, generator brushes, and generator cutout. The high tension circuits, of course, are the most prolific sources of sparks. These are kept under control by the use of devices known as "suppressors" which are always included as part of an auto radio installation job.

These suppressors are of two types: the carbon resistor type, which blocks out the noise by "brute force" and which also impairs ignition efficiency with consequent detrimental effects on

» » Each year a greater share of the world's hauling is done by INTERNATIONAL TRUCKS

● This steady growth is easy to understand when you know about the long International Harvester experience with trucks, the quality-manufacturing traditions of the Company, and the world-wide Company-owned sales and service facilities that protect every buyer of an International through the entire life of his truck. On this solid foundation International Harvester engineers have built an outstanding line of trucks—in four-wheel and six-wheel types—with capacities and wheelbase lengths to meet the hauling requirements of every truck buyer. Any man who is interested in hauling owes it to his business to find out what the International Truck line offers.

The truck shown below is one of the new Six-Wheel *Dual-Drive* Internationals. International Six-Wheel Trucks are also available with trailing axles.

INTERNATIONAL TRUCKS

INTERNATIONAL

At left: This view shows the 6-cylinder, 1½-ton International Model C-30, equipped with comfortable cab and dump body. There is a wide range of Internationals in wheelbase lengths adapted to dump truck work.

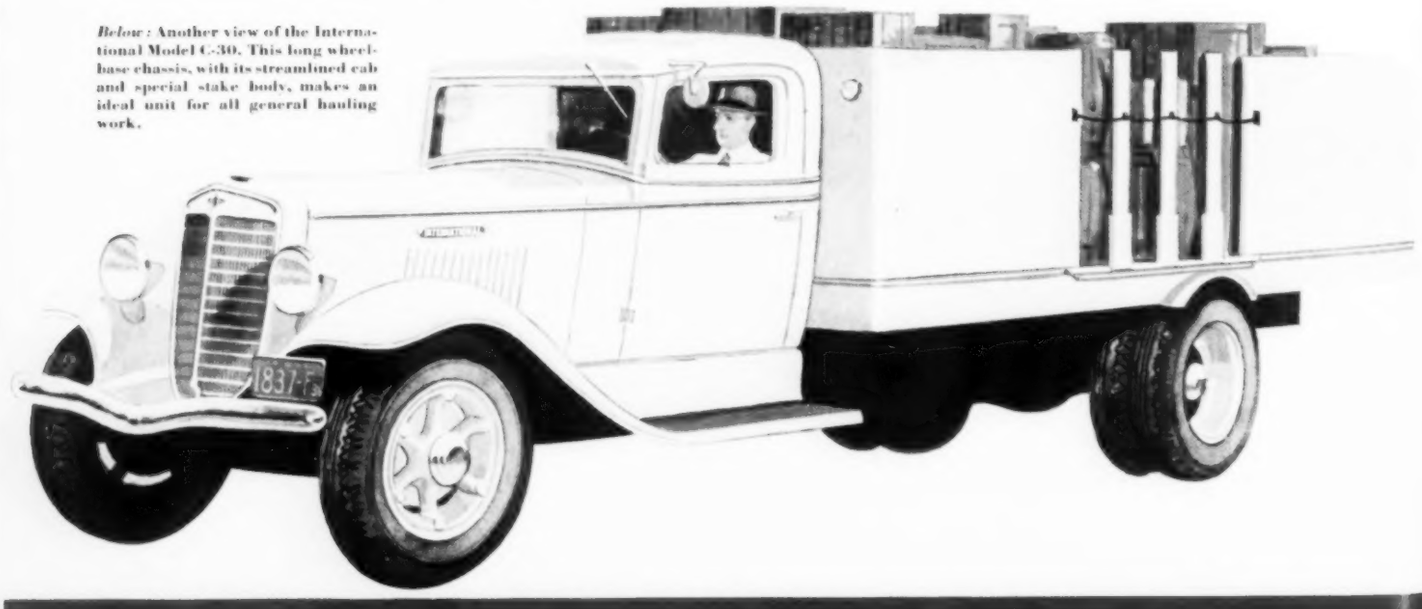
Biggest Non-Passenger-Car Builder of Trucks Is International Harvester

[*Proved by R. L. Polk & Co. official truck-registration figures*]

THIS impressive statement sums up the secret behind International Truck success. "Secret" is hardly the word—considering that for 35 years International Truck engineers have applied themselves to the building of trucks that are ALL TRUCK in basic design and in every working detail. Today's Internationals offer you the result of that long record—quality trucks on which you can depend for exceptional service and economy. The unusual values in International—style and appearance, cab comfort and ease of handling, peerless service, all-truck design—are recognized today as never before. Remember this fact and investigate Internationals, whether you want a truck to *buy* or a truck to *sell*. The many International Truck advantages are profitable and worth while to truck buyers and truck dealers alike. A letter or postal sent to the address below will bring full details at once.

INTERNATIONAL HARVESTER COMPANY
(INCORPORATED)
606 So. Michigan Ave. Chicago, Illinois

Below: Another view of the International Model C-30. This long wheelbase chassis, with its streamlined cab and special stake body, makes an ideal unit for all general hauling work.



INTERNATIONAL TRUCKS

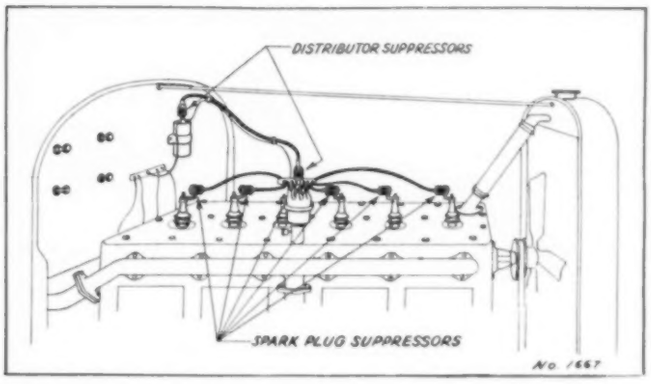
motor performance, and the newer inductive or wire-wound type, which tunes the noise to a point out of the range of the receiver and has no effect on engine performance.

Until recently, the installation of either type of suppressor required that a multiplicity of units be installed on the motor. One was required for each spark plug and an additional unit was necessary for the distributor rotor circuit. However, a new single-unit suppressor has recently been developed which supplants the numerous individual suppressors formerly required.

If the set always has been noisy with the motor running, even when newly installed, the difficulty probably does not lie in the suppressor system unless, possibly, the suppressor unit usually installed in the distributor rotor circuit was omitted. If this is the case, a suppressor should be tentatively tried in this circuit.

In cases of a sudden rise in the noise level in a set that was originally quiet with the motor running, a defective suppressor should be suspected. The best remedy for this trouble would be the replacement of the present suppressor system with one of the new single-unit types.

If it is determined that the source of the noise is *not* in the high tension system, the low tension ignition and lighting circuits should next be investigated. The distributor breaker points should be clean and shiny. The generator brushes should be in good condition and the commutator clean. All wiring, either low or high tension, should be inspected and, if the insulation is dry, cracked, or spongy with oil, the defective sections replaced. All control rods and the metal armor on all cables running through the bulkhead to the instrument board should be connected together by means of a heavy flexible copper wire the free end of which is connected to the car frame.



Individual spark-plug suppressors, such as are shown here, can now be replaced with those of the new, single-unit type, the author says, which will sometimes eliminate stray noises.

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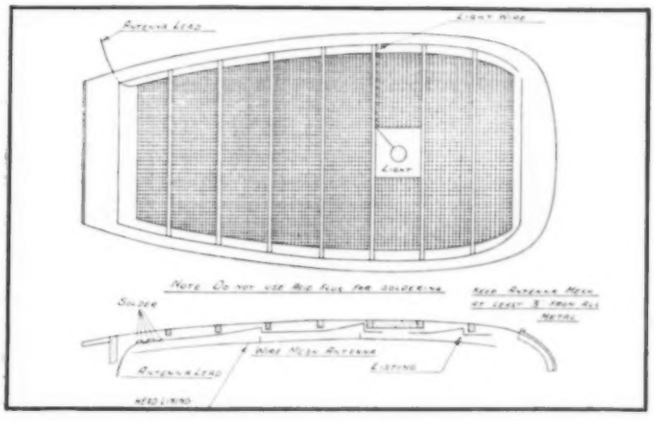


Early method of mounting antenna in the roof, which is still used to a great extent. There are several places here which can stand checking when searching for foreign noises.

If the noise persists, try temporarily disconnecting, first, the dome light wire, and then the wires to the stop and tail lamps at the end nearest the motor. If this procedure produces a pronounced change in the noise level, by-pass condensers connected between these circuits and the car frame will probably take care of the difficulty. Suitable condensers (of about two microfarads capacity) may be obtained at any radio service shop.

Similar condensers connected between the car frame and the generator lead and between the frame and the lead from the coil to the switch are also of material benefit in some cases. Such a condenser might also be tried connected between the gasoline gauge and the car frame and also between ammeter and the frame.

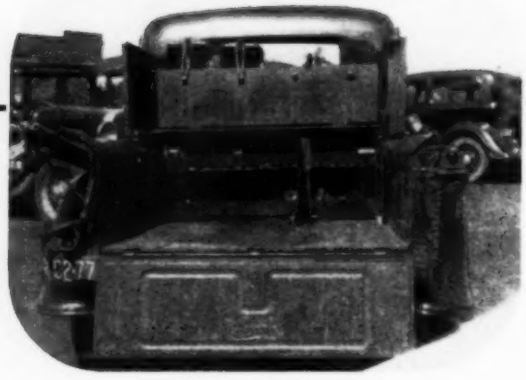
If the car is one equipped with "floating power" or with rubber engine mountings, a simple, but often neglected, remedy for much radio interference is a thorough electrical bonding of the motor and car frame. This is easily accomplished by means of a heavy flexible wire or battery ground-strap connected between some bolt or nut on the motor block and some similar bolt on the frame.

If none of the foregoing expedients brings about the desired noise reduction, a different antenna will often accomplish much. This is due to the fact that the new antenna may be further away from the source of interference than the old one. There are several types of auto-radio aerials. Chief of these is the roof type, installed under the upholstery in the roof of closed cars. Second in popularity is the running board type: This consists of a metal plate rigidly fastened about an inch below either running board. Other types consist of copper screening sewn inside a fabric tire cover or wires stretched between front and rear axles. The axle type, however, is not to be recommended due to obvious mechanical drawbacks.

If the noise still persists after this series of checks, the difficulty is probably too deep-rooted for any ordinary automotive man's diagnosis. The only solution is to turn the job over to a radio service man specializing in automobile installations.

The radio trouble-shooter should always keep in mind that his search for sources of noise will invariably be simplified if the ignition system is thoroughly checked. A thorough tune-up job will take care of this nicely. Any let-down in the efficiency of the car's ignition system will almost always result in noisy radio reception. Spark plugs should be clean with proper gaps and uncracked insulators. High tension wiring should be in good condition, and the breaker points should be clean, shiny and

(*Please turn to page* 63)



An Interesting Pick-Up Body for Public Utilities

By Dwight H. Woods,

Engineer—Distribution,
Nashville Gas & Heating Company,
Nashville, Tenn.

IN response to our Editor's request for interesting photographs of body designs, we are glad to submit the accompanying data and photographs. This body design which we have worked out is somewhat opposite to that which has predominated in recent months. Most bodies have gone "streamline," which we admit are very nice looking, and which you must admit are equally expensive.

For our own use, however, any body that is as complete as the one shown on this page will meet our requirements admirably—and only that. In this pick-up body, we have tried to incorporate the necessary factors which will make it suitable for small utility companies, plumbing concerns, refrigerator and range dealers, and other such companies, where some tools and equipment must be carried; and still leave room for carrying appliances or other loads. This body is comparatively inexpensive, and is one that can be kept clean and "shipshape" looking at all times.

By examining the rear view (above) you can readily see the tool and fitting box, with the three doors open. On the top of this is the meter rack, which accommodates four gas meters, held in place with "rubber bands". The latter are made of sections of old inner tubes, hooked over the meter necks and stretched down under the hooks on the rack. For carrying additional meters, we have other racks exactly the same as these, which we carry loosely in the body.

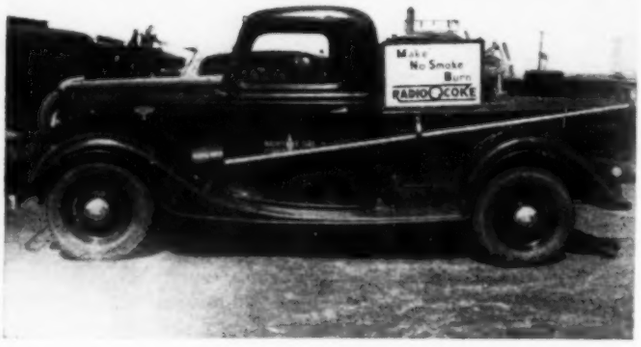
The tool box doors are made so that when shut, the latch tends to tighten, rather than to loosen, due to the shaking of the truck. The compartments in this box are designed for fittings in the upper row, and also at the right-hand side of the lower row. The large compartment in the lower left-hand side of this box is for tools.

The floor of each row of compartments is curved upward at the rear, so that everything in them slides aft towards the doors. There is a small guard, set up about a half inch, so that no small junk can be carried in these compartments. However, such stuff can be carried in a small box furnished in one of the compartments.

It is quite surprising how clean these compartments stay. Another thing, which we did not find out until after the body was designed, is that the doors can't be opened unless the bed of the truck is clean, due to the fact that bottom of the doors are flush with the bed of the truck.

On the rear of this body you will observe the pipe rack at the left and the pipe vise at the right side. There is also a pipe "guide" on the forward right side of the body, to hold the end of the pipe up when working on it in the vise. The quarter-front picture shows further details regarding the construction of the pipe-carrying rack. The side-view shows the pipe rack in more detail. We cut the pipe (as received) in two equal pieces, which gives an overhang of not more than a foot; and that is so high that there is little danger of its being run into from behind.

(*Please turn to page* 68)



THESE three views of the pick-up bodies used by The Nashville Gas & Heating Company will be found interesting, especially the details of the meter-racks and tool compartments. The text of this article gives all the dope.—Editor.

Read the record

CUMMINS DIESELS

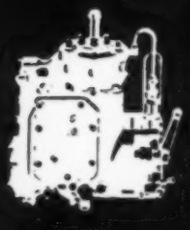
dominate the

DIESEL TRUCK FIELD

PILING UP

Millions of Miles

EACH MONTH
IN EXTRA PROFITS
PER PAYLOAD MILE



CUMMINS ENGINE COMPANY, COLUMBUS, INDIANA.

CUMMINS-DIESELS

AUTOMOTIVE · MARINE · INDUSTRIAL

Kroger Grocery Fleet Get 21 New Tractors

•

NEW units consist of Ford V-8 jobs with many items of special equipment, enabling them to haul payloads of 10 tons and more out of St. Louis warehouse. . . . The special equipment used is described in detail in the accompanying article.—Editor.

TWENTY-ONE new tractor-trailer units of the type illustrated here have recently been put into the fleet service of the St. Louis division of the Kroger Grocery Company, effecting a reduction of capital investment per tractor by more than 75 per cent, it is claimed.

This move was begun as somewhat of an experiment, at a time when heavy equipment was considered indispensable in such service, but it gradually evolved into a distinct "technique," permitting the division to effect some unexpected economies, we are told. Naturally, every effort has been put forth to make these units "work out" in actual service, and at the same time to take advantage of all savings possible.

The load-per-axle law in Missouri was another governing factor leading to the adoption of lighter tractor equipment, which permitted heavier loading of the front-end of each trailer hauled.

In order to make these units as fool-proof as possible from every standpoint, including safety, many items of special equipment were incorporated into the new tractors when put into service. Since safety is always of paramount importance, air-operated mechanical brakes were provided for both the tractors and their trailers. In these installations the drivers may operate the tractor and trailer brakes separately or together.

Windshield wipers and horns are also air-operated. Compressed air is supplied by compressors which run off of special pulleys from the crankshaft. Governors attached to the motors prevent speeds in excess of 45 miles an hour.

To prevent loss of oil through overheating and vaporization when motors are working under severe conditions, the oil capacity of the crank-cases has been increased to twelve quarts. This was accomplished by increasing the size of the oil-pans by cutting out the bottom and welding in a new section. The tractors make complete round trips under the most trying circumstances without loss of oil, it is claimed. Filters keep the oil in good condition, while overhead oilers help to keep the valve mechanisms functioning perfectly under all operating conditions, it is claimed.

The regular gas tanks were changed into tool boxes and fuel is now carried in side tanks manufactured by the company. These are made from sheet iron, electrically welded. The section of metal forming the back sides of the tanks is extended out slightly to provide room for bolting the tanks directly to the frame members. Metal aprons protect the tanks from the weather and improve appearance, also serving as mud-guards, as shown in the picture.

Special 19-plate, heavy-duty 6-volt storage batteries are used, in connection with bus type generators to supply current to the 13 lights on each tractor-trailer unit. Included in the lighting systems are green cluster lights front and rear, dome cab lights for reading orders at night, and interior trailer lights to assist in loading and unloading.

Oversize tires are used throughout, with duals on rear tractor wheels and trailers. Speedometer adapters allow for the larger wheels. The company finds that it is now unnecessary to carry spare tires and no provision is made for them.

Tire failures have been practically eliminated, especially in hot weather, by keeping tires well inflated and thus reducing the tire area against the hot pavements.

Two-speed axle mechanisms are in use on most of the units and when icy conditions prevail, anti-skid chains are used on front and rear tractor wheels.

The tractors are inspected every 2,500 miles and they receive a more thorough inspection and checking every 20,000 miles. Many new devices have been made by the members of the garage staff to assist in this work, in addition to the regular garage equipment.

From the standpoint of loads hauled and miles traveled, the job required of these Kroger tractors is a strenuous one. The trailers never carry less than ten tons of merchandise when they leave the St. Louis warehouse, and in many cases the loads exceed this figure. It should not be overlooked, however, that these units operate on the "diminishing load" plan, since

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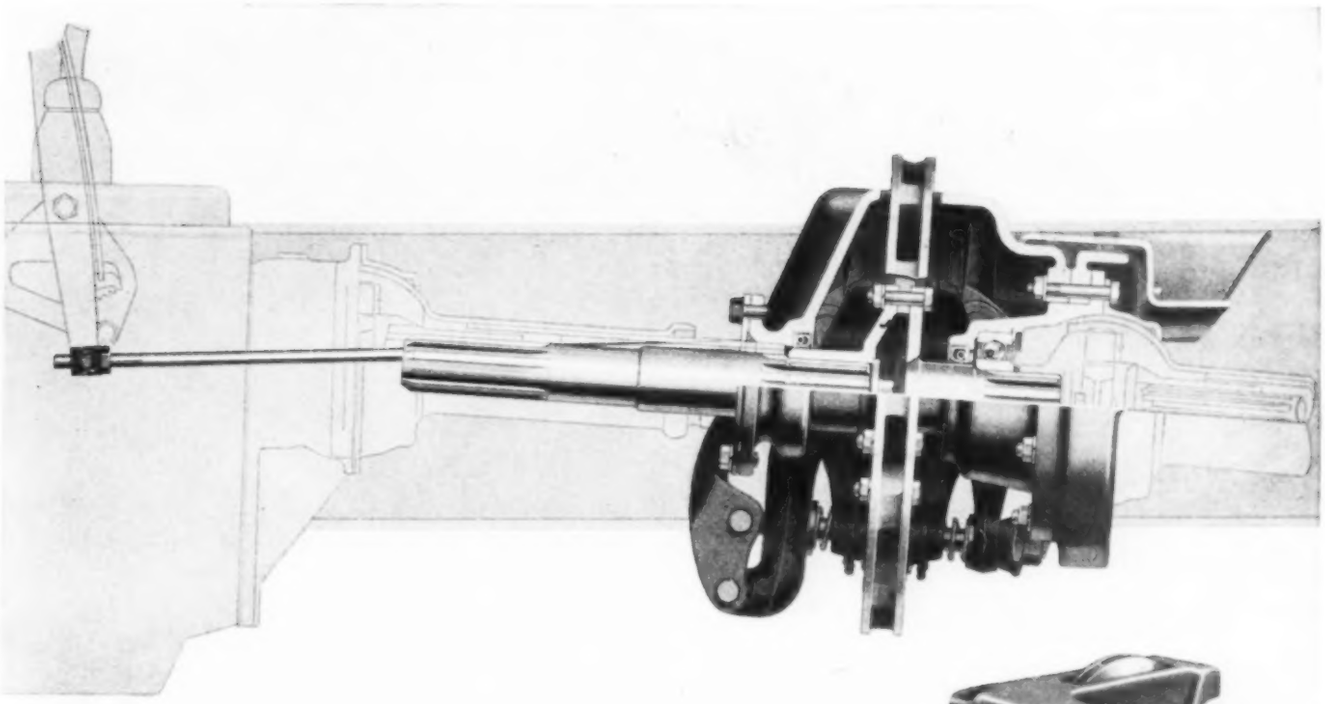
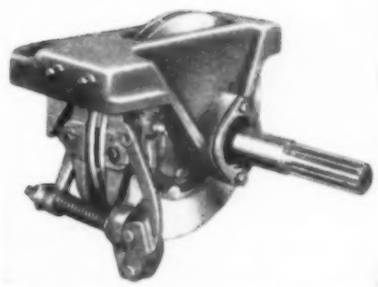
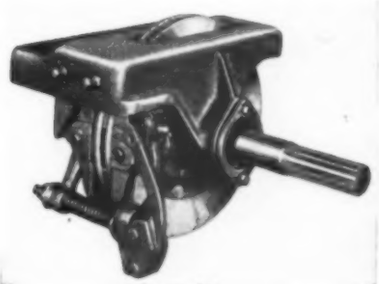


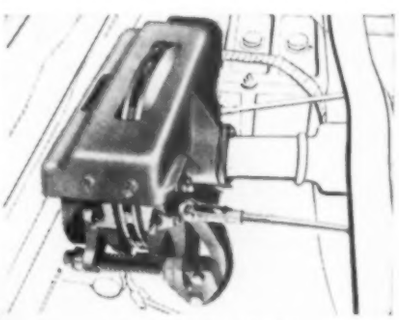
Cross-section view Chevrolet Brake



Three-quarter view Chevrolet Brake



Three-quarter view Ford Brake



Top view Ford Brake

added "Stop-ability" for Chevrolet and Ford V-8 Trucks and Buses

● The Tru-Stop Emergency Brake is built to control Chevrolet and Ford V-8 Trucks and Buses under maximum load and trying conditions. The grip is positive and powerful, the release quick and easy, braking action being much or little according to the effort applied to the hand lever. • It is a real *emergency* brake using every inch of lining when in contact, self-cooling through disc ventilation, absolutely chatter-proof, and non-grabbing. • The Tru-Stop Emergency Brake comes in standard models for Chevrolet and Ford V-8 truck chassis. It is quickly installed and serviced by any mechanic, easily relined and adjusted by any driver. • Bringing heaviest loads to a smooth, even stop in short distance it more than complies with safety regulations and braking laws now enacted in many states. Three sizes are available.

Tru-Stop Emergency Brake is also available for quick installation in larger trucks and buses.

AMERICAN CABLE COMPANY, Inc.

Automotive Division, Bridgeport, Conn.
An Associate Company of American Chain Co., Inc.
Manufacturers of the Famous Weed Tire Chains

IN BUSINESS FOR YOUR SAFETY

Stop safely with

TRU • STOP EMERGENCY BRAKE

for Chevrolet and Ford V-8 Trucks & Buses

DAVID LARSON, THE AAA OBSERVER, AND THE MARSHALL-FIELD TEST UNIT

AAA Truck-Tests In the School of "Experience"

•

TWELVE Department stores, in as many cities, are cooperating with the Chevrolet Motor Company in staging a unique test of delivery truck operation, over a 30-day period. . . . The results should be interesting.—Editor

AN unprecedented test of delivery trucks, under the supervision of the American Automobile Association, is now under way in twelve cities of the United States, in each of which a leading department store is operating a Chevrolet test truck in actual service.

This is said to be the first test of this sort ever to have been sanctioned by the A. A. A., and so far as is known, it is the first test of a group of identical trucks operating under varied conditions in different cities.

Department stores that are cooperating are in Atlanta, Boston, Chicago, Dallas, Denver, Detroit, Los Angeles, Milwaukee, New York, Philadelphia, St. Louis, and Washington.

The operation covers a period of 30 working days, during which accurate records will be kept covering the economy of the trucks in fuel and oil and in other expenses, accompanied by an exact record of the performance of the trucks in the handling of department store deliveries.

The test, besides demonstrating the cost of operation under varied conditions, will also prove a demonstration of the methods by which department store delivery trucks have achieved a high record for safety.

Typical of the test in all 12 cities is the operation in Chicago, where Marshall Field & Company are using a Chevrolet double-drop frame parcel delivery truck. The executives of the truck division of the Chevrolet Motor Company found the plan enthusiastically received by Marshall Field, represented by James M. Barclay, operating and personnel executive.

The truck, a stock chassis, with the exception of the double-drop frame, which was developed especially to accommodate a new body type specially designed for Marshall Field, was selected from the assembly line by the contest board of the A. A. A.

From the time it left the factory, it has been under constant A. A. A. control, even on its trip from Detroit to Chicago. The gasoline tank is locked, and the key is held by David N. Larson, A. A. A. observer.

(Please turn to page 63)

We promise you these...and more...with VOLT-O-MATIC Generators

TO many a fleet owner it's still news—the way voltage regulation protects the battery and permanently peps up the entire electrical system.

Yet for over 20 years—on *hundreds of thousands of cars, trucks and buses*—Volt-O-matic Generators have been insuring on-time schedules; minimizing maintenance costs; providing steady lights, safer horns, easier starting, improved ignition, longer battery life. To understand why, check the following combination of factors against any other generator made:

1. When the engine is running, the Volt-O-matic Generator (not the battery) furnishes all electrical current to lamps, horns, wipers—all the current consumers. Like a perpetual watchman, the integral Regulating Unit of this generator sees to it that each consumer gets just the amount of current it requires—never too little; never too much.

2. With the Volt-O-matic Generator, the job of the battery is far easier than ever before. Now it becomes merely a reservoir, to operate the starter and to furnish current when the engine is not running. Now the battery need never go hungry, or become choked from over-feeding. For the Volt-O-matic regulator feeds the current to the battery, too, precisely in accordance with its needs.

3. Volt-O-matic Generators represent more than two decades of experience in the development of voltage regulation. They have stood the test of years. They are permanently lubricated! They are trouble-proof—often operating for 100,000 miles and more without requiring any attention. Their workmanship is unexcelled anywhere in the world. They are competitively priced. When you insist on Volt-O-matic Generators, you are playing safe—you are taking no chances!

Even if you're not having any serious difficulties with generators or batteries, can you ignore the efficiency, the economies, the confident assurance which are yours with Volt-O-matic Generators? Investigate—write today for the new booklet giving comprehensive information.

The makers of American-Bosch products have always taken pride in creating, designing, building and selling products superior to those commonly in use. Built to a high standard of quality, these products are proven leaders in their fields.

TWO OTHER AUTOMOTIVE ARISTOCRATS

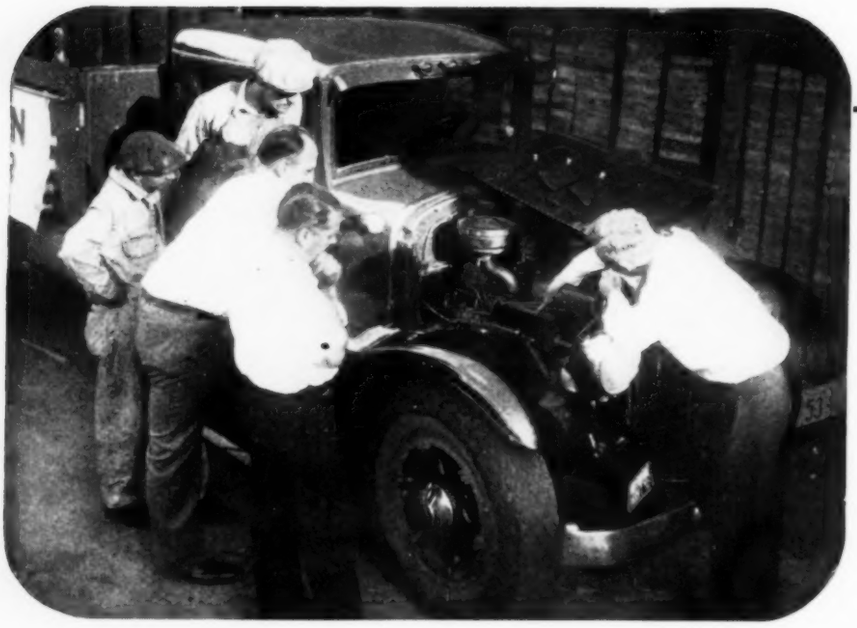
Our Ditch and Fog Light has a triple beam that spreads a semi-circle of safety around the car. It's a life saver to bus, truck and taxi drivers.

The Neverstall Windshield Wiper is driven by its own electric motor; hence gives uniform service at all speeds. Never fails going up hill or "giving 'er the gas."

Ask for full information about these products which appeal to those who want the best performance, greatest endurance and maximum efficiency, regardless of price.

UNITED AMERICAN BOSCH CORPORATION

SPRINGFIELD, MASS. NEW YORK CHICAGO DETROIT



Fitting *the* Truck To *the* Job

IN which W. C. Mackenzie, Sales Engineer for Federal, remarks on the advisability of selecting a vehicle large enough for the job in hand. . . . This article seems to refer to straight trucks, and not to tractor-trailer combinations.—Editor

ONE of the most valuable assets of any fleet executive is the ability to select the type of motor equipment that he knows will best meet his requirements in every way.

Fitting the truck to the job is a responsibility that is considered of first importance by every successful transportation man. To do this, of course, requires complete knowledge of the work for which the truck is being purchased and also the judgment to select the proper vehicle for that particular work.

Properly fitting the truck to the job often results in higher initial costs, but this additional cost at the start can be offset many times over by savings in operation, maintenance and time during the life of the vehicle. Intelligent fleet men recognize this and can, in many cases, overcome the objections to higher initial cost by a proper presentation of facts and figures to their purchasing departments or executives.

The total cost of a truck during its lifetime is a simple matter of arithmetic which adds up about as follows:

1. Original cost.
2. Maintenance cost during its life.
3. Loss of revenue while out of service for repairs.

Some operators overlook entirely the second and third items above. They mistakenly concern themselves only with how cheaply they can buy a truck. A vehicle purchased on this basis is often inadequate for the operator's work, and the result is costly overloading, which is conducive to rapid wear of engine parts; transmission and axle gears and shafts; spring and frame breakage; etc. All of these ills are accompanied by excessive loss of operating time and consequent loss of revenue, which should, rightfully, be charged against the total cost of the truck.

Experiences of this kind have proven conclusively that the total cost of operating an under-sized vehicle over a period of time can be much greater than the extra initial cost of a vehicle that has been properly fitted to the job.

Fitting the truck to the job is not confined solely to the operator's purchase of a vehicle that will safely carry his loads. Performance is also important and must be seriously considered as part of a satisfactory sale. The operator should apply a standard yard-stick of truck performance to the job to be done. There is a simple S.A.E. formula for determining the ability of a truck to perform under various payloads and operating conditions. The standard of gradeability that the writer considers a good average for trucks hauling loads as "straight trucks" is 3.0.

The writer believes that this figure will fit a large proportion of the cases and that unless the buyer is particularly fussy about his operation, a truck with such a gradeability or greater, may be considered a satisfactory operation.

After the proper make and model has been determined, the next thing to do is select the correct wheelbase. In this the operator must consider the length of body that is necessary to handle the load which will be carried. Load distribution, of course, has an important bearing on satisfactory truck operation.

The next step is to determine the size of tires. It is well to always select tires as original equipment that have a rated capacity higher than the load to be imposed upon them. Overloaded tires decrease the mileage that is built into them by the manufacturer. For example, tires that are overloaded 20% beyond their rated capacity will give only 70% of the mileage that is built into them. The entire 100% mileage could be obtained if the load equaled or was less than the rated capacity of the tires.

To determine proper size tires, a good "rule-of-thumb" is to assume that three-quarters of the total gross weight is on the rear tires. For example: Suppose that the total gross weight is 17,000 pounds; three-quarters of this, or 12,750 pounds, is on the rear tires. Four 8.25/20 tires have a rated capacity of 10,600 pounds or 2,150 pounds less than the imposed load. There-

(*Please turn to page* 68)

NOTHING "Just the same" AS Larcoloid!

for ADHESION!

PROTECTION!

FLEXIBILITY!

ECONOMY!

1 HOUR DRY

For a fine durable job The New York Truck Renting Corp. chose **Larcoloid** for their fleet of trucks, one pictured above.

Larcoloid Leads

● And just remember this...*there is only one Larcoloid.* There are many imitations on the market offered as "just the same" but make no mistake about it . . . nothing in this type of finish equals Larcoloid. It is the one material that solves modern day finishing problems to the entire satisfaction of the finishers.

Here is a modern product that has scored a sensational success. It typifies flexibility.

Larcoloid is out of tack in 15 minutes and is thorougly dry to a beautiful, lustrous, "baked-on enamel-like" finish in one hour. It is more durable than lacquer and is alcohol, acid and alkali-resisting with adhesion and opacity second to none. It is highly insulating and contains no gun-cotton or other highly explosive materials.

No expensive equipment is necessary in order to use Larcoloid. It can be easily applied with either brush or gun. It does not raise old finishes or undercoats which greatly simplifies refinishing, and saves time.

Larcoloid positively dries hard in one hour, yet has adhesion and elasticity approaching baking enamels. Where Larcoloid is used, protection, durability and beauty is assured. *Write for descriptive circular.*

Larkin Co Inc.
BUFFALO · PEORIA · PHILADELPHIA

Paint Division

Attractive Trailers Pay Big Dividends

WITH the advent of color photography and color advertising, the Fruehauf Trailer Company reports a definite demand among its customers for brilliantly painted trailers. Formerly, it was thought that a useful product like a trailer must only be painted a drab color that would conform with its utility. Now transportation companies have come to realize that brilliant colors advertise their products or services, and for this reason pay big dividends.

Trailers traveling all over the United States are really moving signboards. They do not have to depend on the public passing a certain point, as with a signboard, but circulate far and wide—it is a case of "the mountain going to Mohammed."

On the large surface of a trailer, painted a flashing color like "Flamingo Red," "Boatswain Blue," or chrome, any imperfections in painting would immediately be apparent. Thus the decorating work must be done in a very thorough manner, which in turn increases the durability of the color.

Best results can only be obtained by first cleaning the metal of the trailer until every particle of rust, dirt, and water has been removed. After two coats of filler have been applied and allowed to dry, the entire trailer should be carefully sandpapered. Several coats of the desired color can then be sprayed on in rapid succession without drying, two men operating hand guns on the outside of the body, and one worker inside the trailer. Roofs are usually treated with aluminum paint drawn to special specifications to withstand all weather conditions.

When the lettering and striping, also done by hand, are finally completed the entire surface is protected with varnish. This, of course, heightens the color, and aids in making it impervious to sun, rain, and mud, Fruehauf engineers point out.

●

"Safety Day Parade" a TRUCK Parade

NEW YORK CITY'S recent Safety Day Parade was a *truck* parade! For nearly three hours, more than 2,000 motor trucks, laden with floats and bedecked with signs extolling Safe Driving rolled past the reviewing stand, under the approving eye of Mayor LaGuardia and other city officials.

This float, entered by Mack Trucks, Inc., was typical of the many hundreds in the parade. This manufacturer took advantage of the occasion to give a great big hand to the nation's truck drivers by pointing out that truck drivers have a better safety record than passenger car drivers.

Signs on other trucks, not shown in this picture, read: "Truck Drivers Lead in Safety—In 7 years fatal accidents per passenger car have increased 44% while fatal accidents per truck decreased 2%." Another sign read: "Truck Drivers Play Fair—Why Don't You?"

Still another sign read: "Truck Drivers Drive Safely! Why?—120,000 Truck-Driving jobs in Greater New York Depend on Safety." Other messages were: "Accidents are Bad Business—Trucks are Run to Make Money, Not to Lose It." . . . . "Insurance Rates Favor Safe Driving—Because Trucks Have Fewer Accidents, Rates are 35% Lower than on Cars."

●

New Taxi Fleet for New York City

DELIVERY of what is claimed to be the largest single order for new taxicabs in history was begun recently in New York City, when the first of a total of 2,200 new type cabs, representing an investment of more than $2,000,000, were placed in operation following a parade and ceremonies attended by local business men and city officials.

The new cabs incorporate a number of unique features, including a sliding European-type roof, which permits cab occupants to enjoy the open sunlight while riding. Manufactured by the De Soto Division of Chrysler Corporation, the new cabs will be operated by the Sunshine Radio System, Inc.

Signaling the departure of the new fleet on its introductory tour of the city, Borough President Levy dedicated it to the interests of safety on the city's streets.

Selected for service in New York on the basis of their safety features, the new De Sotos are equipped with all-steel bodies, double-action hydraulic brakes, and safety glass, while safety in operation is further augmented by an unusually low center of gravity.

An additional safety feature is a signal on the instrument panel which indicates whether or not the door is open, thus reducing the possibility of injury to passengers getting in and out. The entire fleet is radio equipped.

In addition to the sliding roof, all the rear windows of the car may be lowered to give the effect of a convertible model automobile with the top lowered. "These new models," said Otto Gutfreund, general manager of the System, "are the first of open sliding-top design to be used in this country."

The special light brown cab bodies are mounted on the De Soto chassis of 130-inch wheelbase with a six cylinder, 100 horsepower engine. Over-all length is 208½ inches. The height, loaded, is 67 inches while width is 68½ inches, accounting for the low center of gravity.

New Reos are 3-5 and 4-6-Ton Jobs

A COMPLETELY new line of 3-to-5 and 4-to-6-ton heavy-duty trucks was announced last month by the Reo Motor Car Company, Lansing, Mich. Base chassis prices range from $1,745 and up for the 3-to-5-ton models; and $2,775 and up for the new 4-to-6-ton units. A noteworthy feature of both models is the 30-gallon gasoline tank which is mounted on the side of the frame.

Six models are offered in the 3-5-ton class. These have wheelbases ranging from 153" to 185". Gross capacity ratings range from 18,000 lbs. to 20,000 lbs. and from 30,000 to 35,000 lbs. in tractor-trailer operation or with semi-trailer or full trailer.

Brakes on these new Reos are of the four-wheel, internal hydraulic type with vacuum booster operation. Effective area is 399 square inches and linings are ½" thick. The hand brake is of the 14" ventilated-disc type and operates on the propeller shaft. B.K. vacuum-control for semi-trailer brakes is available at slight extra cost.

Power is supplied by a 6-cylinder Gold Crown Engine. The cylinder block is of chrome nickle alloy iron and has a 3⅝" bore and 5" stroke. Piston displacement is 309 cu. in. Taxable horsepower is 31.5 and maximum horsepower is 85 at 2,800 R.P.M. There are seven main bearings with a 2⅝" diameter, while the total bearing area is 88.12 sq. inches. The crankshaft is fully counterweighted.

Lubrication operates under full pressure to all main, connecting rod and camshaft bearings through rifle-drilled oil passages. As in other Reo engines, pistons are of Lo-Ex aluminum alloy, cam-ground trunk type with T-slot.

Mounted in a unit behind the engine are the 11" double-plate, truck-type clutch with damper and Reo-built 4-speed truck tranmission with 2 large size S.A.E. power take-off openings, one on each side, and helical counter shaft drive gears to insure quieter operation in all speeds.

Axles, I-beam front and full-floating rear, are also Reo-built and are of the heavy-duty truck type. Rear axles have steel housings, spiral-bevel drive-gears, dowel-bolted ring gears, straddle-mounted pinions and tapered roller bearings throughout.

Gear ratios are 5.37, 6.14 or 7.17 to 1 and are optional on any model. Three models, known as the "R" series, are available with a double-reduction axle unit and a gear ratio of 8.5 to 1, with 5 speed overdrive type transmissions.

LOOKING into Reo's new truck cab, showing V-type windshield, double-lockered instrument panel, and accessory group. Safety glass is standard throughout.

The chassis frames on all of Reo's new 3-5 ton models are 8⅞ inches deep with 3-inch flange width and ¼ inch stock. Long wheelbase models have extended frames, lengthened and reinforced with fish-plates, 12 inches deep and ¼ inch thick.

Three models are offered in the 4-6 ton class. These have wheelbases ranging from 156 inches to 190 inches and gross capacity ratings ranging from 22,000 lbs. to 40,000 lbs.

The power plant is of the heavy-duty, 428 cubic inch, six-cylinder, 7-bearing type. Maximum torque is 284 foot-pounds at 800 to 1,000 R.P.M. The cylinder block is chrome nickle alloy iron with a 4⅜" bore, 4¾" stroke and 428 cu. in. piston displacement. Maximum brake horsepower is 104 at 2,600 R.P.M. The balanced crankshaft has 7 main bearings, 3" in diameter with a total bearing area of 108.4 sq. inches.

A five-speed, overdrive-type transmission provides a large range of power and speed. In fourth gear, this unit has tremendous pulling ability, it is claimed. The overdrive provides higher road speed for favorable operating conditions.

The rear axle is a heavy-duty, full-floating type. Strong steel housing, tapered roller bearings and double reduction drive gears are features.

Both the full-pressure lubrication

(*Please turn to page* 68)

LETTERS TO THE EDITOR

RE "STUPID INDIFFERENCE"

● *Dear Mr. Fischer:* Your timely and pungent editorials and news articles indicate definitely your attitude in reference to the all-absorbing topic of today—HIGHWAY SAFETY.

Like ourselves, we believe, you have been seeking a suitable label to attach to the vast army of careless, reckless, indifferent owners and drivers—one not too offensive. May we submit *"Army of Stupid Indifference."*

"Army of Stupid Indifference" is the title of a new booklet we have just issued, dealing with the arguments in support of official motor vehicle safety inspection. Additional copies of this book are available to any individual, group or fleet operator, free for the asking."—*Fred L. Dennis, Director of Highway Safety, Bendix Products Corporation, South Bend, Ind.*

●

WANTS SAFETY PICTURE

● *To the Editor:* I am interested in Plymouth's safety picture entitled *"Everybody's Business"* as mentioned on the Editor's Page in your May issue.

The Southwest Highway Officials' Association is having a convention in Liberal, Kansas, on the 15th of October. We will be interested in getting the film of this picture for that date.—*Lee A. Hunter, County Engineer, Liberal, Kans.*

●

EXPECTS TO BE A "FAN"

● *Dear Mr. Fischer:* I read the articles on Preventive Maintenance and thought them very helpful. While on the subject, I wish to heartily congratulate you on your splendid publication. . . . I am a new reader of FLEET OWNER, but I assure you I shall be a regular "fan" before long. —*Wm. Zervas, Flushing, N. Y.*

"DECIDEDLY INTERESTING"

● *Dear Mr. Fischer:* The articles on Preventive Maintenance in your March, April and May issues of FLEET OWNER were decidedly interesting and instructive to me.

It is the first systematic outline of this subject I've had the opportunity and pleasure of reading. It surely has started me thinking, and that *is* something. I have been looking forward to the time when some authority would come forward with a treatise of this kind based on a broad experience, to help some of us men in formulating a system that would deliver us from the rut. I would like to get copies of the four forms mentioned in the articles.

I have eight trucks, three Caterpillar tractors, two passenger cars and all the rest of the machinery connected with road construction and maintenance, to "nurse" through their trials and tribulations, with the aid of one helper. Any system that will cut costs must at the same time cut the time required; therefore these forms will be welcome to me.

I want you to know that the above-mentioned article is but one of the many articles appearing in your publication, from which I have received really helpful ideas and information. —*Earle V. Leavitt, Garage Foreman, Lake County Road Commission, Baldwin, Mich.*

●

LIKES THE Q-O-M CLUB

● *To the Editor:* I am employed as an automotive inspector for the Shell Petroleum Corporation of St. Louis, and have been a constant reader of your publication, FLEET OWNER, for the past three years.

I enjoy its contents to the utmost, being especially interested in the article appearing in each issue, called the "Question-of-the-Month Club." I think the question of fitting replacement bearing inserts in the new type engines would be a good one to handle in an early issue.—*R. E. Kellogg, Des Moines, Iowa.*

WANTS MONOXIDE DETECTOR

● *To the Editor:* Recently we had an employee working in our shop "gassed" with monoxide gas. We are wondering if there is an instrument which we could make or purchase, to hang on the wall to determine the amount of gas in the room?

We should like to know of this. If such can be purchased, we should like to have a constant reminder to our men in the shop, so that they can turn on the exhaust fan or open the doors at the proper time.—*D. L. P. Co., Baraboo, Wis.*

(EDITOR'S NOTE: *There is such an instrument which also incorporates an automatic alarm feature. We are sending you the maker's name and address by separate letter.—H. C. F.*)

●

WANTS P. M. FORMS

● *Dear Mr. Fischer:* I am a regular reader of FLEET OWNER and have always found it to be a most helpful magazine. In fact, the article on "Preventive Maintenance" which ran from March to May of this year is of such merit that I am wondering whether or not I could prevail on you to send me a set of the forms.

I am connected with a large fleet in the capacity of assistant superintendent of transportation, but would rather not divulge the identity of the concern.—*Anonymous.*

●

INVENTS WHEEL-LIFTER

● *To the Editor:* I have just invented a wheel-lifting device which one man can operate to remove and re-install all kinds of heavy truck and bus wheels.

Being a constant reader of FLEET OWNER, I thought perhaps you could bring this device to the attention of companies which might be interested in buying the rights to manufacture it. I believe it comes under the general heading of shop equipment and will be glad to send information to interested parties.—*W. L. Peirce, 505 N. Central Ave., Glendale, Calif.*

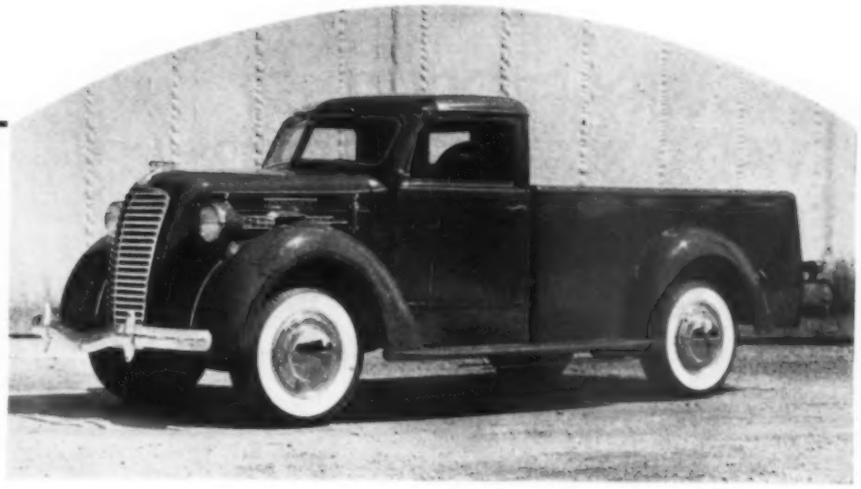
●

THREE BRIEF COMMENTS:

● "Your magazine, FLEET OWNER is a very interesting and instructive book and I read every word of it."—*Wm. A. Both, Long Island R. R. Co., Richmond Hill, N. Y.*

● "Incidentally, we find FLEET OWNER very useful and thank you very much."—*C. H. Loebs, American Brewing Co., Rochester, N. Y.*

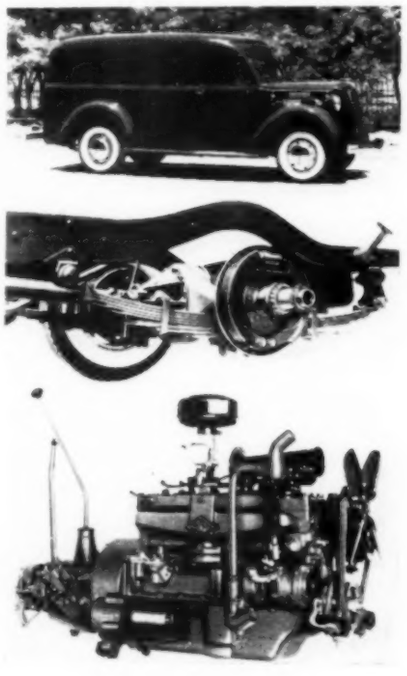
● "I consider FLEET OWNER one of the most valuable publications of its kind that comes to my desk each month, every issue being read with great interest."—*A. W. K., Standard Oil Co. of Ohio, Cleveland, Ohio.*



New Model 80 Diamond-T A Heavy-Duty 3/4-Tonner

A NEW Diamond-T delivery truck of three-quarter ton capacity, has been announced by the Diamond-T Motor Car Company of Chicago. It is known as Model 80. While similar in general appearance to the larger Diamond-T trucks, it represents fresh engineering and designing throughout the chassis, cab and bodies. Wheelbase is 119 inches. Base price for the standard chassis is $525 at the factory. Chassis weight is 2,750 lbs., without cab.

The manufacturer's announced purpose in developing this truck has been to fill the requirements of truck operators in the field between the ½-ton light delivery type of chassis and the 1½-ton heavy-duty truck. In accomplishing this purpose, the major chassis units—engine, axles and frame—have been developed especially for this particular model, it is pointed out. The gross rating, maximum, including weight of chassis, cab, body and load, is 6,500 lbs. Nominal load capacity is ¾-ton.



TOP: New Diamond-T ¾-ton Model 80, with standard 8-foot panel body . . . CENTER: View showing "progressive" rear springs, rubber shackles, full-floating axle and hydraulic brakes . . . BOTTOM: The new 6-cylinder, 190-inch engine with clutch and transmission, down-draft carburetion and rubber mounting.

Among the interesting features of the new Model 80 are: a new type of X-frame construction; underslung rear springs of the "progressive" type; short turning radius; six-cylinder 190 cubic-inch engine; eight-foot bodies of streamlined design in panel and pick-up types; and economy of operation is stressed by the maker.

The engine of this new truck is a six-cylinder, seven-bearing, heavy-duty job, developed especially for service in this chassis. Piston displacement is 190 cubic-inches; bore and stroke is 3⅛ x 4⅛ inches. L-head design is used, with cylinder block and crankcase cast in one piece. The crankshaft is 2½ inches in diameter and is drilled for pressure lubrication to all main and connecting-rod bearings. Water-jackets extend the full length of the cylinders and surround the exhaust valves and guides. Camshaft and water-pump are driven by gears. The pistons are of the light-weight type and carry four rings each. Combustion chamber is of the modified "high-turbulence" design, with a moderate compression ratio. Down-draft carburetion is employed and the engine is mounted on rubber at four points.

The new type of "X" frame has 6-inch side rails, reinforced by a straight X-section of eight inches maximum depth, and by three additional cross-members. The X-member joins the side rails at the rear of the front springs and at the front of the rear springs.

A departure from the conventional in spring design is noted on the new Model 80. By using underslung rear springs of the "progressive" type, so that stiffness increases with the load, Diamond-T engineers claim a very "soft" ride and freedom from "bottoming" under all conditions. Front springs are 38 x 2 inches; rears are 53 x 2 inches; with eight and nine leaves, respectively. Loaded frame-height is but 21 inches above the ground when standard tires are used. All shackles, brake linkage, and the clutch throwout bearing are rubber-bushed and require no lubrication.

Model 80 is equipped with the latest type of internal-expanding, hydraulic brakes on all four wheels. Brake drums, of cast iron, are 14 x 2 inches. A single cam adjustment provides for brake take-up. The hand-brake is a contracting band mounted at the rear of the transmission.

A full-floating, spiral-bevel-gear rear axle is employed, having double Timken roller bearings at the rear wheels, centered directly above the tires. No load, of course, is carried by the axle-shafts and these are removable without taking off the wheels. Pinion is straddle-mounted on three rows of bearings. The one-piece axle housing is of heat-treated steel. Standard axle

(*Please turn to page* 69)

INQUIRY-PRODUCERS?--NO! VALUABLE LITERATURE?--YES!

THE following numbered selections have been chosen by Editor Fischer as this month's trade literature offerings. . . . These booklets are GUARANTEED to be interesting and are offered NOT on the basis of producing inquiries for advertisers, but on THEIR OWN MERITS as handy reference data. . . . If you don't believe it, send for a few of them and prove it to yourself. Do not confuse this page with the voluminous conglomerations found in ordinary (the other fellows') magazines. . . . The coupon is for your convenience. All you need is an envelope and a 3-cent stamp.—H. C. F.

285. COMMERCIAL VEHICLE REFINISHING. . . . That's the title of a new book on vehicle painting, using the newer type of synthetic enamels, of course. . . . Egyptian Lacquer (don't let the name fool you) is offering both the new finish and the new book. The former dries dust-free in 15 to 30 minutes and dries for taping or masking in 8 hours. . . . Besides, you can get brushing or spraying grades of this new finish, known as "N.F.R." . . . . The new booklet, together with a bunch of color-chips, comes to you without obligation; merely indicate that you want it by marking Number 285 on our coupon below.

•

286. READ THE RECORD. . . . Information on Diesels has proven very popular in this department. "*Read the Record*" is the title of a very elaborate book that gives you a wealth of data on actual experiences with Diesel engines in the hands of fleet operators and other users of Diesel power. . . . A limited edition has been produced and while copies last, they will be sent free on request. . . . Mention Number 286 on our coupon below and a copy will be sent *by mail* at once. . . . This book is unusually well illustrated.

•

287. SHULER STORIES. . . . Every month the Shuler Axle Company gathers together a hundred or so of the best—the snappiest stories of the month and publishes them in an amusing book entitled "*Shuler Stories*". . . . If you'd like your name placed on their mailing list to receive this book regularly, without obligation of any kind, just indicate it with Number 287 on the coupon below. . . . As to the kind of stories in this book, we'll just leave that to your own imagination.

•

288. INFLATO-TABLE. . . . That's not Latin, but just a plain English name given to a handy circular slide-rule that will tell you just how much air to put into your tires, depending on the size and load carried, of course. . . . It will show you when your tires are overloaded, and will tell you how much load a certain size tire can carry with safety. . . . If you don't care to ask your local General Tire Dealer for one of these, just place Number 288 on the coupon below, and a "copy" will be sent to you by mail, free, of course.

•

289. TRUCK TIRE SLIDE-RULE. . . . Here is a newly designed Tire Calculator for 1½-ton trucks. The original was brought out by Goodrich several years ago, and we supplied hundreds of fleet operators with same, *free*, of course. . . . With this Calculator, and without any previous technical experience, you can find out: *(a) the probable life of your present tire equipment; (b) the right size tire to use for 100% normal service expectancy; (c) your actual truck tire costs.* . . . Together with the Calculator will be sent a new "*Practical Guide for Tire Combinations on Trucks*," which in itself is a valuable piece of literature. . . . By placing Number 289 on our coupon below, this material will be sent by mail *at once* to you.

•

290. CONTROLLED POWER. . . . That is the title of an interesting 24-page book that analyzes the causes of highway accidents and points out certain advantages of the four-wheel-drive principle in connection with safety. . . . There is some interesting information in this book on the subject of accidents that were traced to carbon monoxide in truck cabs; also its effect on drivers. . . . Variable road surfaces and their relation to highway accidents is another subject discussed. . . . For your free copy of "*Controlled Power*" just mention Number 290 on our coupon below.

•

291. EMERGENCY BRAKES for Fords and Chevrolets. . . . Now the well-known "*Tru-Stop*" brake is available in easy-to-install models for Ford and Chevrolet trucks and buses. . . . This brake needs no further introduction to most fleet operators. Literature and prices covering the newest models will be sent without obligation if you mention Number 291 on our coupon. . . . This brake operates *manually*, without air or vacuum and connects directly to your present emergency-brake lever, just to make ourselves clear. It is claimed that it will stop the most heavily loaded truck. . . . The rest you will find in the new literature.

•

292. THE INSIDE STORY. . . . Here is a handy booklet that tells the "inside story" of the cooling system in pictures. It is put out by the makers of Prestone, but you'll be surprised when you find out how unselfish they have been in really giving you a worth-while service manual, without the usual advertising talk. . . . The information in this booklet is going to be of practical help to many fleet operators this Summer, when cooling system problems usually are at their worst. . . . Help yourself to a generous portion of "overheating prevention" by sending for a free copy of this booklet. Number 292 on our coupon brings one, via the postman, of course.

•

294. LET THERE BE LIGHT! This is a handsomely illustrated catalog which covers a complete line of auxiliary and safety lighting equipment, which should appeal especially to the fleet operator. . . . Detailed instructions are given in it for the proper installation and use of driving-lights, fog-lights, warning-beacons, police-lights, highway-service lights, flood-lights and even garage and shop-lights. . . . Anything that you might desire in the way of lighting equipment for road and shop, you'll be sure to find, illustrated, described and priced in this new (Appleton) catalog. . . . Number 294 on our coupon brings a copy—promptly and without obligation, via one of Mr. Farley's efficient postmen.

The Editor, FLEET OWNER, ... 1936
90 West St., New York, N. Y.

Kindly send me without cost or obligation the following literature mentioned in the July issue. (Order by number)

....

....

Name of Fleet .....

Address .....

City and State .....

Your Name ..... Position .....

Number of Vehicles Operated .....

"Hill-Holder" Available on Studebaker Trucks

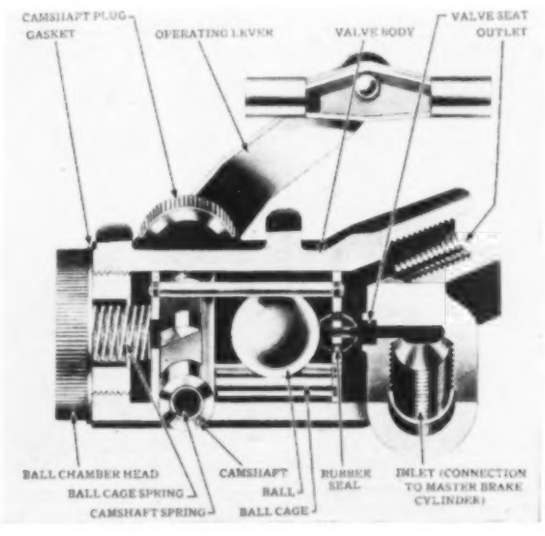
THE automatic "hill-holder," used by Studebaker for passenger cars, is now available as a truck feature on six Studebaker bus and truck models, it was announced recently by R. G. Hudson, manager of the truck division, The Studebaker Corporation, South Bend, Ind.

The hill-holder device is available on the 1½-ton "Ace" (2T2 and 2M2), the 2-ton "Boss" (2W6 and 2M6) and the bus chassis (2TB2 and 2MB2) models. It may be secured on both conventional and cab-forward models.

The hill-holder is a safety device that permits a driver to keep his truck stopped or "anchored" when it is facing up an incline, without the necessity of keeping his right foot on the brake pedal. This enables him to use his right foot upon the accelerator and he is assured of starting on up the hill without stalling his engine, and most important of all, the hill-holder prevents the truck rolling back down the hill into the vehicle behind.

The hill-holder is an automatic device, located in the hydraulic brake system, that maintains the hydraulic pressure without continued foot pressure on the brake pedal as long as the clutch is kept depressed. In other words, when the truck is stopped facing up a hill and both brake and clutch pedals are depressed, the hill-holder comes into action. It takes over the job usually done by the right foot, *i.e.*, maintaining the brake application. It keeps on doing that job as long as the clutch is depressed. Thus, the right foot is free for the accelerator pedal. When the driver desires to continue up the hill, he gradually releases the clutch and depresses the accelerator. The released clutch releases the brakes and the vehicle moves forward. The hill-holder does *not* function when the truck is on level ground or facing a down grade.

For the technically minded, the hill-holder, in conjunction with the braking system might be described. All 1936 Studebaker trucks and buses are equipped with hydraulic 2-shoe brakes. The hill-holder links the braking system with the clutch pedal, but it does not in any way affect the normal use of the brakes, nor does it compel the operator of the truck to acquire new or different habits in handling the vehicle or brakes.



CUT-AWAY view of "Hill-Holder" as now available on Studebaker trucks and buses. . . . The text of this article explains its operation in full detail.

The hill-holder is a simple valve which prevents the return of the brake fluid from the lines as long as the clutch pedal is depressed. The connecting linkage is adjusted to open the valve (release the brakes) simultaneously with the release of the clutch pedal and engagement of the clutch when starting upgrade. This permits a smooth start. No additional pressure is required to hold the clutch pedal in the depressed position.

The valve in the hill-holder is controlled both by the clutch pedal and by a ball which is free to roll against the rubber seal in the rear of the ball cage when the car is on an upgrade, thus rendering the valve effective; or, to roll away from the rubber seal when the car is not on an upgrade, rendering the valve inoperative regardless of the position of the clutch pedal.

In operation, when the foot brake is applied, the fluid from the brake master-cylinder enters the hill-holder valve and even though the clutch pedal is depressed, the pressure of the fluid forces the cage assembly back against the spring and forces through to the outlet and into the brake lines. If the pedal is not depressed, the ball cage assembly, of course, is in the forward position and the fluid is free to pass through the unit without interference. (See illustration in cut-away).

If the truck is stopped on an upgrade with the brakes applied and the clutch pedal depressed in the usual manner, the ball cage is in its rearmost position and the rubber seal is seated on the passage to the master-cylinder. The ball also is moved, through gravity, to the rear and closes the orifice in the rubber seal. The fluid is then prevented from returning to the master-cylinder and the brakes remain applied even though the brake pedal is released. Engagement of the clutch in starting the truck moves the ball cage ahead and permits the return of the fluid and consequent release of the brakes.

(*Please turn to page* 70)

The TROUBLE SHOOTER

A department, devoted to correspondence from readers of FLEET OWNER. Any questions having to do with automotive service will be answered in this department. All properly signed inquiries will be replied to by mail and such of them as are believed to be of possible interest to other readers will be published in these columns.

Question on Governors; Modernization

Question: I have a truck of popular make, used as a tractor, equipped with a governor that is giving a lot of trouble in that it cuts off the power on hills. Can you send me the names and addresses of companies making mechanical governors, similar to those used on the AC Macks?

Another question: I have an old AC Mack tractor of 1927 and I would like to modernize the engine, or change it to a six-cylinder motor to gain speed and power. If you have anything in mind, please advise me what is the best thing to do.—M. L., Paterson, N. J.

Answers: Regarding mechanical governors, we are sending you the makers' names and addresses under separate letter. However, we believe that it would be much easier to get hold of a *good* governor of the "velocity" or carburetor-flange type. There are several good ones on the market and you will find the installation a simple problem. It is quite possible that your present governor is out of adjustment or needs other attention.

With reference to the AC Macks. Some time ago we presented an article that gave complete information on how to "modernize" the old AC Mack engine, to make it comparable to the present type. We are sending you a copy of this article, taken from our November, 1934 issue, by separate mail. The necessary parts can be obtained from the Mack Company.

You have another alternative. Why not get into touch with the Mack factory branch and ask their advice regarding the installation of a later model AC engine? These engines are now turning up much faster and are developing more h.p. and road speed.

On the other hand, if you are insistent on changing the engine, we are sending you the name and address of an engine manufacturer who has developed a conversion engine for this purpose.

●

Look Up Your Back Issues, Please

Question: We are trying to work out a curve which will show the proper time to turn in your automobile. Inasmuch as you publish this good magazine, we thought perhaps you might have a formula worked out in regard to this problem. If you have any such formula, will you kindly forward same to us.—W. L. A., Middletown, N. Y.

Answer: This subject has been covered in previous issues of FLEET OWNER, several articles having been presented that offered various "formulae" to this end.

We do not have back numbers on hand, but if you keep a file copy of this publication, may we refer you to the following issues: November, 1928; March, 1933; July, 1934. The subject of car and truck replacement was taken up thoroughly in these issues. We hope you have them on hand.

No "standard" formula has been accorded any general reception, to our knowledge, due to the many variables in different types of fleet operations.

●

Stellited Valves Becoming More General

UNITED Parcel Service has recently ordered twenty large trucks for furniture delivery in the vicinity of New York City. Tests run on Haynes Stellited valves and valve seat inserts by United Parcel Service engineers have been so successful, that hard-faced exhaust valves as well as valve seat inserts were specified in the recent order, according to The Haynes Stellite Company.

Inserted valve seats armored with wear-resistant alloy are already supplied by many truck and bus manufacturers as standard equipment. The use of hard-faced valves in conjunction with hard-faced seats marks a definite step forward in automotive design, since, up until recently only hard-faced inserts have been regularly employed by truck and bus owners.

Further information on this subject may be obtained from Haynes Stellite Company, New York, N. Y.

You May Not Believe It!

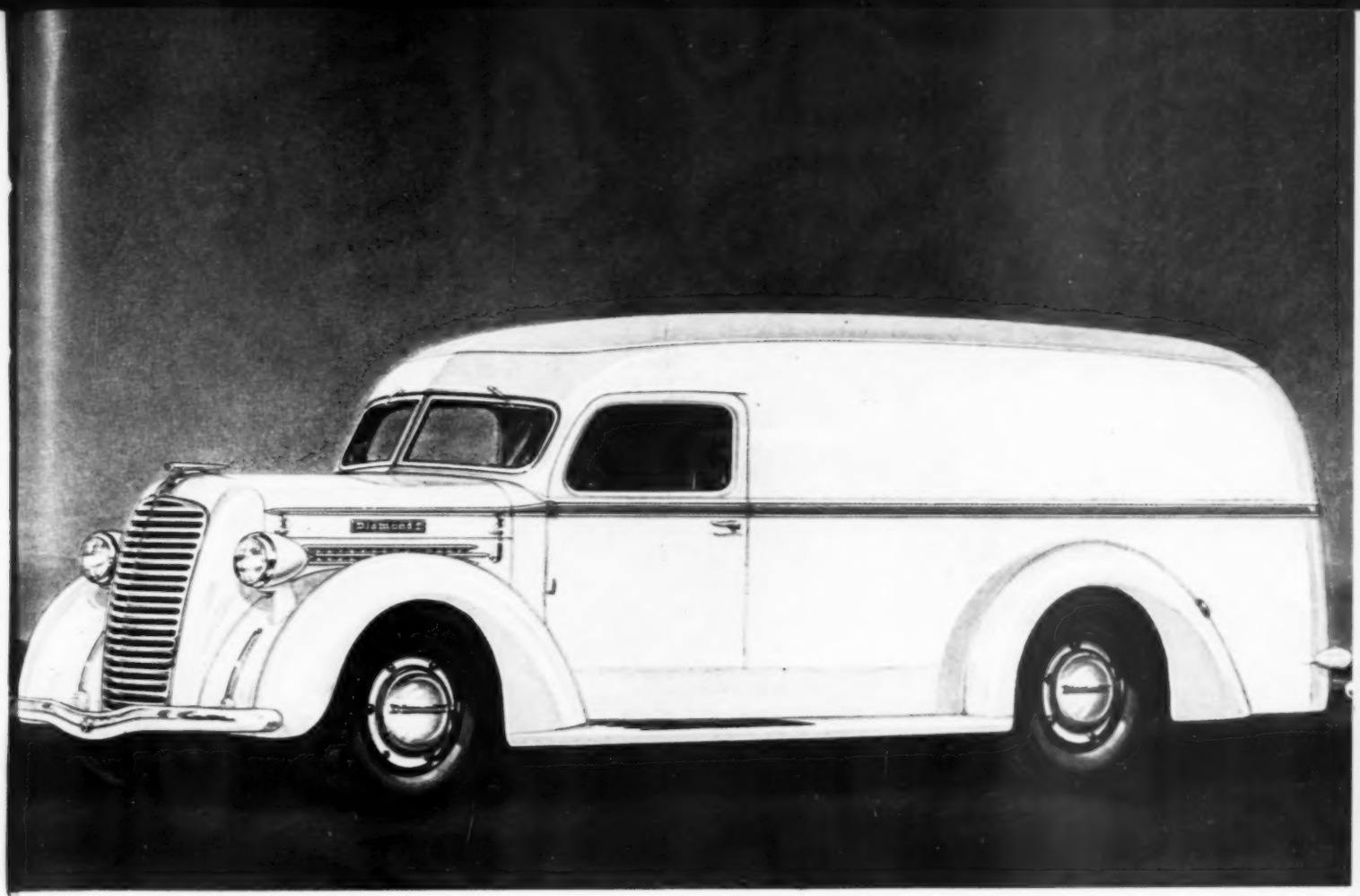
(But It's True)

THE FACT:

AN order for a new truck, signed at 3:30 in the afternoon, was dispatched by the factory branch, to a customer 160 miles away, at 5:00 o'clock the same day. At 8:00 o'clock the next morning the truck went to work for its new owner.

THE PROOF:

A YAKIMA dealer, (Wikstrom-Chase, Inc.) when asked for a delivery date by the buyer, nonchalantly promised to have the truck on its way in an hour-and-a-half. . . . The order was signed, the dealer and one of his drivers boarded a plane for the GMC branch, 160 miles away in Seattle, Wash., and at 5:00 o'clock they left the branch, in the new truck, Yakima-bound. . . . There's an opportunity for someone to go them one better, and ship a truck by aeroplane. . . . What?



DIAMOND T
introduces
"MODEL EIGHTY"

MODEL EIGHTY is a strictly heavy-duty truck in the light-duty field. It will serve any operator more economically and satisfactorily than any previous truck of this capacity.

Its CAPACITY of ¾-ton is exactly adapted for use in general delivery service. Its extra body *space* permits full 8-foot bodies. Its short turning radius ideally fits metropolitan operating conditions.

It has HEAVY-DUTY CONSTRUCTION thruout. Cabs and bodies stay free from rattles . . . "progressive" rear springs and live rubber shackle bushings cushion the load, provide "boulevard" riding and eliminate greasing.

Its 100 PER CENT TRUCK ENGINEERING, with 6-cylinder, 7-bearing *truck* engine and full-floating axle, *both developed especially for this truck,* means true economy—less fuel, oil and maintenance expense.

Its smart, fresh STREAMLINED STYLE is consistent with Diamond T, the world-originator of style in motor trucks.

Its price, squarely in the lowermost group, appeals to business men the world over—proved by the greatest volume of advance orders in Diamond T history.

DIAMOND T MOTOR CAR COMPANY
Chicago, Illinois

3/4-TON
and
ALL TRUCK!

$525
Standard Chassis at the Factory

Diamond T Trucks are built in a complete line to 40,000 lbs. gross capacity, including tractor-trailer, 2-speed axle and 6-wheel models.

MONEY-MAKERS

on *any* truck job!

WHATEVER the capacity or type of Diamond T Truck your work demands—whether for fast delivery and pick-up or the most severe hauling service—you may rest assured of four extremely important facts about it.

First of all, it will be a *truck*, through and through. Diamond T has no passenger-car affiliation — has no object in using any unit of passenger-car origin.

Second, it will be smart—streamlined—modern to the minute. Diamond T Trucks have always led the field in style.

Third, it will save you money in operation and in routine maintenance, over any truck in your fleet. There are a dozen ways in which this is positively achieved—and your Diamond T dealer will gladly point them out.

Fourth, it will cost you less, to buy and to own, than any other truck of comparable ability and quality.

BRIEF SPECIFICATIONS

¾-ton Model 80

6-cylinder, 7-bearing, 190-cubic-inch *truck* engine designed for this truck. Massive full-floating rear axle. New, heavy X-type frame for extreme rigidity. Large hydraulic brakes, cast drums, armored wiring. "Progressive" type rear springs. Live rubber compression type shackle bushings, engine rubber mounted. Needle-bearing universal joints. Wheelbase 119" to accommodate bodies to 8 ft. Chassis weight 2750 pounds.

Other larger models in a complete range to 40,000 pounds gross capacity—a Diamond T type and size for every hauling requirement.

Those statements imply that Diamond T trucks represent the topmost values in the industry . . . which is precisely the fact, to the best of our knowledge, and we will gladly undertake to prove it. Call your Diamond T dealer today, and put it squarely up to him.

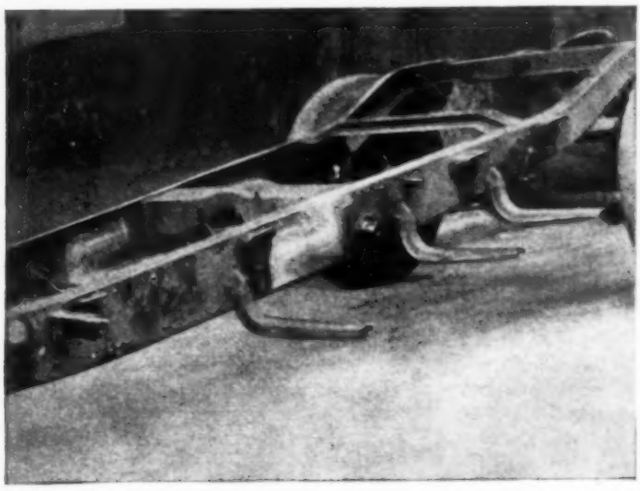
DIAMOND T MOTOR CAR COMPANY
Established 1905
Factory and General Offices — Chicago, Ill.

DIAMOND · T

When One and One Make One

A TRUCK operator found himself with two wrecked trucks of identical make and model. One was damaged at the front; the other at the rear. He found that the only thing to do was to combine both of them and salvage one complete truck from the ruins. The frame was what worried him particularly.

At this point an oxy-acetylene service engineer, who was in the shop on another matter was able to be of



considerable assistance. He observed that the front part of one injured frame and the rear of the other were in good condition. He suggested therefore that the simplest procedure would be to cut off the uninjured portions of each frame, discard the respective damaged parts, and unite the good front section to the good rear section by oxwelding.

This suggestion was acted upon and successfully carried out. The main channel beams of each chassis were cut in the middle with an oxy-acetylene cutting blowpipe. The cuts were made stair-shaped in profile. The ends to be welded were fitted together, and then joined with high test steel welding rod. A steel plate was welded on the inside of the frame to give additional reinforcement.

So accurate was the cutting and welding that all the bolt holes in the two parts of the frame were in true alignment with the corresponding holes in the body, we are told.

The owner of the truck frames saved a considerable amount over straightening costs by having the repair done by oxy-acetylene welding and cutting. Besides the inherent simplicity of the oxy-acetylene process, an additional labor saving factor was noticed, in that the use of the blowpipe made it unnecessary to dismantle the rear wheels of one of the frames in order to do the work.

●

Are Diesel Diplomas Necessary?

Question: I have been thinking about taking a course in Diesel engines and hope that you can hand me some free "fatherly" advice on the subject.

Can you oblige me by saying whether or not the time is here for one to be spending a lot of money on taking up a course in Diesel engines, or do you think it would be better to sit tight for a while yet?

There are two schools offering courses by mail, so far as I know. The ..... school has a course for $225; *another has a course for* $315. *I have been under the impression that it might be mighty nice for one man in a town to know something about Diesel engines and how to service them. I would be very grateful if you would answer this question in the best way you can.—C. H., Preston, Ont., Canada.*

Answer: We do not know anything about Diesel schools—that is a little out of our line. Personally, I would wait a while, until such a time that Diesel engines in cars, trucks and buses become more common. Perhaps by that time, Diesel engines will be simplified to a great extent, so that any competent mechanic will be able to service them, without benefit of special education.

On the other hand, if you want to become a Diesel engineer, with some large power-plant, factory, shipping company, railroad, etc., this might be a good thing. But if you want to stay with the *automotive* industry perhaps it would be just as well to sit tight, read all the magazines in the *automotive* field that you can get—and read the Diesel papers, too—and wait for this industry to become Dieselized; if it ever will.

When and if Diesels become popular and widespread in the automotive industry, you depend on this publication to feed you the facts just as fast as we can lay our hands on them. That's what we are constantly trying to do. Do you agree?

●

A Tip on Cleaning Welding Tips

IN many ways the tip or nozzle of the blowpipe is one of the most important parts of your oxy-acetylene equipment. The orifices have been shaped and sized with great precision during the manufacture of this part for a very good reason. Flame control, maximum efficiency of the use of oxygen and acetylene and long life of the tip depend on keeping these orifices the correct size. Enlarged, bell mouthed or marred orifices tend to throw the flame out of shape and this can seriously interfere with the proper operation of the blowpipe.

If the orifice becomes clogged with dirt or scale, clean it with the proper size drill or with a soft brass or copper wire. Never use a sharp hard tool which might enlarge or "bellmouth" the orifice. Clean the orifice from the *inner* end wherever possible. In this way the opening will be less likely to become enlarged, and the tip or nozzle will continue to operate at maximum efficiency.

●

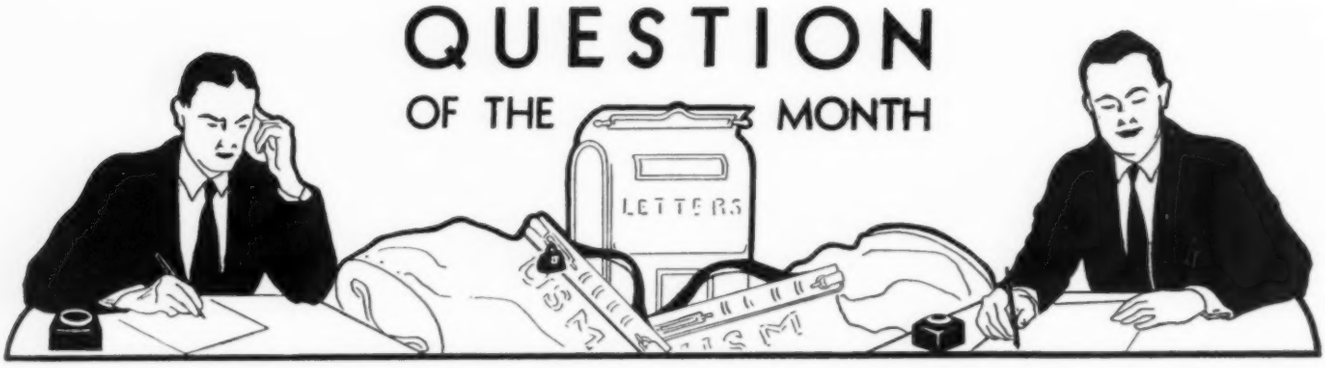
Bus Tires Give Unusual Performance

AN exceptional performance record on bus tires has recently been reported by the Public Transport Company of Chillicothe, Ohio to The B. F. Goodrich Company, Akron, Ohio.

Citing the record of tires on their Bus No. 5, equipped with 7.50-20 balloons, the company reports that the six casings have been run on the bus for a total of 629,134 miles, or an average of 104,855 miles per tire.

The actual mileage of each tire was: No. 1, 116,592; No. 2, 109,956; No. 3, 103,682; No. 4, 100,856; No. 5, 100,559; No. 6, 97,849; according to Goodrich officials.

QUESTION OF THE MONTH



A FEW REPLIES TO THE REFINISHING QUESTIONNAIRE (No. 69):

Synthetics for Everything

By Roy Mason, Supt. Trans.,
Kansas City Gas Company, Kansas City, Mo.

WE use synthetic enamel for refinishing trucks *and* passenger cars in our fleet. Unless the old paint is in very bad condition, or is peeling, we never remove it. We just sand it down and apply a good oil-base primer. After drying, it is glazed, then sanded some more and finished with two or three coats of synthetic enamel. Unless an especially smooth finish is wanted, we do not rub out the finishing coat.

By using an oil-base primer, it takes a little longer for drying, but you do not have to be so careful about cleaning and getting ready for the job. Synthetic enamels will hold their gloss longer and will stand more rubbing and polishing than lacquers. They also cut our insurance rate, as they are not so dangerous to handle.

We do not have any special refinishing schedule in our fleet, as painting is done when necessary and the time varies from every one to six years. Under average conditions the finish will stand up for three years, but on account of hard, rough use to which some of our trucks are put, and the type of material handled, such as pipe, pipe-fittings, rock, dirt, etc., some of them are painted every one to two years. Passenger cars are painted from three to six years, according to the different factory jobs.

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No Schedule Followed

By G. A. Hogg, Trans. Supt.,
The Scranton Electric Company, Scranton, Pa.

WE do not follow any set refinishing schedule; our vehicles are repainted only as required. Passenger cars rarely get a complete paint job during the life of the car. Most of our repaint work is done in our own shop; a small amount of it is farmed out.

Synthetic enamels are used on trucks; lacquer is used on passenger cars; both of these finishes are put on by the spray method. Lettering is done mostly by the use of decal transfers; a little of it is still being done by hand methods, however.

On old work, if the condition is O.K., it is our practice to paint over the old finish, using a special primer. When complete paint-removal is required, we do it by the cold-stripping method, using chemicals.

Our paint and refinishing materials are obtained from paint jobbers. In our paint shop we have the following equipment: air-compressor, spray-guns, spray-booths, sanding-machine and polishing-machine. We use masking-tape for color-separation, wherever necessary.

THESE are but a few of the early replies to our Questionnaire on Refinishing. . . . A complete report is being mailed out to those who participated in it. . . . Your cooperation is appreciated.—H. C. F.

•

One-Day Refinishing Material?

By L. W. Hess, Div. Supt.,
Mid-Continent Petroleum Corp., Waterloo, Iowa

OUR trucks are painted when brought in for general overhaul. This usually averages from 18 to 24 months. Passenger cars are seldom repainted. We use synthetic enamels, sprayed on, the work being done in our own shop.

It is our general practice to paint over the old finish, using a special primer. However, this is done not more than three times on tank bodies. We do not use decals, all lettering being done by hand, but we are planning to do so, sometime.

We feel that a paint *can* be developed that can be applied, with lettering and primer, all in one day, and give a minimum of two years of service, especially on truck tanks. We are still seeking such a finish.

Touched-Up Every Year

By J. F. Ackerman, Del. Supt.,
Kresge Department Store, Newark, N. J.

ALL trucks in our fleet are touched-up and refinished with a clear coating approximately every 12 months. Complete refinishing jobs are done on the average of every four years per vehicle.

Synthetic enamels and clears are used, sprayed on. Lettering is done by hand. We do not use decorative decals. On fenders and other small surfaces, both the spray and brush methods, are used, as necessary.

On old work, it is not our general practice to paint over the old finish. Paint-removal is accomplished by using regular paint-removers. Automotive finishes, masking-tape and other supplies of this kind are obtained from a paint jobber.

•

Synthetics Stand Up Well

By J. L. Lyden, Shop Foreman,
Phillips Brothers Coal Company, Pittsburgh, Pa.

REFINISHING of our trucks is done in our own shop, about every three years. Brushing enamel has been used in the past, but now we are using the spray method. Synthetic enamel jobs done three years ago still are in fair condition. Brushing is used for touch-up work only.

We would like to use decals, but we find that the minimum quantity is too great for the size of our fleet; therefore all lettering is done by hand. Our paint is secured from automotive jobbers and paint makers.

On old work, we usually are able to paint right over the old finish, without using a special primer; after sanding down well, of course. Badly marred work is primed and surfaced first, however. Where removal of the old finish is required, we use the regular paint-remover, and sometimes a lye solution. This method of removal we find slow and unsatisfactory.

Fleet Practice *with Reference to* "Decal" Transfers?

(Here's How You Can Get the Complete Picture on this Controversial Subject:)

LAST month our questionnaire covered Commercial Vehicle Refinishing. It included a few minor questions on Decal Transfers. These, we found, would not give a *complete* picture of the situation with regard to fleet practice with Decal Transfers, hence this separate questionnaire on the subject.

Our findings are going to make valuable reference data for all-around use. And we know that you will appreciate this information, particularly since it will be based strictly on Experience!

The questionnaire which appears on this page is the *first step!* In order to receive the complete data which this questionnaire will bring, it is necessary that you participate in our survey, by tearing out the blank, filling in the answers to as many questions as you can (or as you care to) and mailing it in to Editor Fischer.

There are no other "rules". . . . But in order to give us enough data to work with, it is necessary that we receive a *representative* number of replies.

The questionnaire which appears below is the only logical means that we can employ to gather the necessary data from all sections of the country at one time.

And rather than pass on to you the products of Editor's imaginations (and they sometimes are highly imaginative), isn't it much better to pass back to you the data gained from *actual experience* in the field?

Now you know it is, so why not participate in this questionnaire today! . . . In return for a few minutes of your time, you'll get a private, personal copy of the summary to all of the returns. And no names will be mentioned in it. . . . Thanks a lot for your cooperation.—H. C. F.

(Please tear out and mail to The Editor, The Fleet Owner, 90 West St., New York City)

Question No. 70 — Decal Transfers

Do you use "Decal" Transfers on your vehicles, for lettering?..... For other decorations?.....

What kind of Transfers do you use?—Printed Transfers?..... Lacquered Transfers? .....

What type of finish are your Transfers usually mounted on? (Please check below)

☐ Synthetic Enamel; ☐ Lacquer; Other finishes? .....

Do you find Transfers difficult to mount?..... Do you have much spoilage?.....

What type of adhesive do you use for mounting Transfers? (Please check below)

☐ Remoistening Gum; ☐ Synthetic Varnish; ☐ Rubbing Varnish; Others?.....

Do you use a "clear" varnish over Transfers?..... If so, what kind of "clear"?.....

Do you use wax over Transfers, instead of varnish?..... If so, what kind of wax?.....

If you have any of the following difficulties with Transfers, please check same (below).

☐ Checking; ☐ Edges break down; ☐ Gold turns "silvery";
☐ Peeling-off; ☐ Colors fade; ☐ Gold tarnishes;

Other difficulties? (Please explain) .....

.....

.....

How long do your Decal Transfers last? (Average) .....Years.

How often are your vehicles (with Transfers) washed or cleaned? .....

What is your source of supply on Decal Transfers? (Please check below)

☐ Direct from Transfer Manufacturer Others? .....
☐ Direct from Distributor .....

About how many sets of Decal Transfers do you use per year? .....

Which MAKE (or makes) of Transfers are you now using? (CONFIDENTIAL) .....

If you have used Transfers in the past, and have discontinued same, for reasons of dissatisfaction, please explain your difficulties .....

.....

.....

Other remarks: .....

.....

.....

How many vehicles in your fleet? (Please indicate below)

Trucks ..... Tractors..... Trailers..... Pass. Cars..... Buses..... Miscellaneous.....

***Note:** If you cooperate with us and fill out this questionnaire, you will be entitled to a tabulated report covering all of the answers.*

Swap your Maintenance experience with other fleet operators in this easy, convenient way. We do the work. You get the benefit.

Name of Firm .....

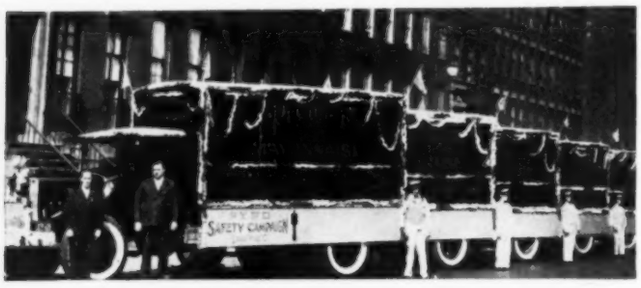
Address .....

City and State .....

Your Name .....*Position*.....

Fleets Cooperate in Safety Drive

ONE of the most striking features of the safety demonstration and parade held recently in New York City, was the cooperation of fleet operators in this worth-while and commendable movement.



The safety parade was staged by the New York City Police Department and was reviewed by Mayor LaGuardia and Chief of Police Valentine. More than 2,000 trucks participated.

The accompanying picture, representative of *one* of the truck fleets participating in the parade, is part of the gayly-decorated fleet of food products trucks entered by the Francis H. Leggett Company of New York, and in charge of Herman Schmidt, fleet superintendent.

Part of the fleet, dressed up in General white-sidewall truck tires, is shown here, just as it was about to enter the parade through a side-street of the city.

●

Truck Committee Scores Port-of-Entry Plan

MOTOR truck port-of-entry laws constitute nuisance legislation working against a free flow of commerce over the highways and impairing friendly relations between states, according to a statement recently issued by the Motor Truck Committee of the Automobile Manufacturers Association.

"The port-of-entry plan which provides for detention of out-of-state motor trucks at state borders for collection of a mileage tax resembles customs laws governing foreign trade," declared Arthur C. Butler, Secretary of the Motor Truck Committee.

"After careful study of this plan, the Motor Truck Committee has found that ports-of-entry are more costly than is warranted by results obtained through their operation. While seemingly directed at motor truck operators, they strike at industrial and agricultural shippers.

"A port-of-entry measure now pending in New Jersey is designed as a means of obtaining an estimated revenue of $5,000,000 for relief purposes.

"If port-of-entry laws are applied in states where traffic is not dense, the opposition to them may not be so great but since adoption of these laws sows the seed for retaliation by neighboring states, it is not difficult to visualize the handicaps that would confront shippers in moving commodities over highways from Connecticut through New York, New Jersey and Pennsylvania to Delaware.

"Traffic at the Holland Tunnel and other inroads to New Jersey would be choked up in a bottle-neck twenty-four hours daily if trucks are detained and drivers required to declare their cargo and destination.

"An extensive traffic survey by the U. S. Bureau of Public Roads indicates that a million vehicles enter and leave New Jersey at twenty-four points each week. Of these, 122,499 are motor trucks.

"In other words, the port-of-entry plan in New Jersey would involve the checking of about 17,452 motor trucks daily, not to mention the number of times these trucks would be stopped at borders of other states that adopt similar statutes in retaliation."

●

Stainless Steel Refrigerated Trailers

TWO light weight, stainless steel refrigerated trailers, the first to be built of this metal and design, have recently been delivered to the Davidson Transfer and Storage Co., of Baltimore, by the Edward G. Budd Manufacturing Co., of Philadelphia.

The trailers, designed to resist corrosion and reduce weight, both of which are made possible by the use of stainless steel, will be used for hauling cheese, mayonnaise, yeast, meats and other perishable products between Baltimore and New York, augmenting the company's present fleet of refrigerated trailers.

The refrigerator system, installed by Fitzgibbon and Crisp, of Trenton, N. J., consists of three "ice-fin" cooling units using dry ice. It is designed to be free from gas and to maintain constant temperatures within very narrow limits. The body may be divided into either two or three compartments, separated by three-inch flexible Kapok partitions, in each of which a fixed temperature can be maintained without affecting the temperature in the other two.

The stainless steel body, construction of which is similar to the high-speed, light-weight, stainless steel trains, is 24 feet long and is mounted on a light-weight, fully automatic Fruehauf trailer chassis developed by the Fruehauf Trailer Co. especially for this unit. Its floor is covered with a one-piece stainless steel pan with six-inch flaps extending up on all sides, permitting the constant flushing and draining of the body without affecting the insulation under the floor. There is a self-bailing, sealed drain in each corner.

Exterior panels as well as the roof are in the bare metal, unpainted and unvarnished. The high reflectivity of the polished surface minimizes the effect of the sun on the inside body temperature, it is claimed. Washing and rubbing serves to improve the polish of the metal.

Insulation, supplied by Fitzgibbon and Crisp, consists of Kapok in the sides and roof as well as in the partitions, and Balsa Wood and spun glass in the floor.

Weight of the body and chassis is 8,525 pounds, the body alone weighing 4,675 pounds, of which 2,265 pounds are devoted to insulating and refrigerating units.

Truck Tire Calculator

A NEWLY designed Tire Calculator for 1½-ton Trucks with many improvements both in ease of operation and information available through its use; and a new "Practical Guide for Tire Combinations on

1½-ton and Larger Trucks" have just been published by The B. F. Goodrich Company, Akron, Ohio.

When Goodrich introduced their original Tire Calculator and the "Practical Guide for 1½-ton Trucks" several years ago, the material proved very interesting to fleet operators who had need for a simple and accurate way to determine tire needs.

The new Tire Calculator allows anyone, without previous technical experience, to determine the following:

1. *The probable life of his present tire equipment.*
2. *The size tire a truck owner should use for 100 per cent normal service expectancy.*
3. *Actual truck tire costs.*

Among the information made easily available by the use of the new Tire Calculator and new "Combination Guide" are:

Instructions for easy calculation of tire changeovers; changeover guide, including data on maximum payload of 131-inch and 157-inch wheelbase trucks; tire sizes and inflation pressures; rim sizes; dual spacing; and makes of trucks on which various combinations are possible.

Tire combinations for trucks larger than the 1½-ton size, together with a table showing the percentage of payload on the rear axle for known wheelbase and distance from the center of the payload to rear axle are included.

Of special interest is a section devoted to wheel and rim problems, a data table on dual spacing for pneumatic tires and a load and service diagram illustrating the effect of overloading on the ultimate service of a pneumatic tire.

A full page is devoted to a table showing "Cost Expectancy" of tires, showing the cost of 100 per cent service, and also divulging the added costs for any percentage decrease, as well as lowered costs when the percentage is raised by excellent care and maintenance of tires.

Both the new Tire Calculator and the Combination Guide can be obtained by fleet operators, by writing directly to The B. F. Goodrich Company, Akron, Ohio. . . . Mention of FLEET OWNER always helps; sometimes it speeds up the service.

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Approved in Massachusetts

DIETZ Direction Signals are approved in the State of Massachusetts, a factory announcement states.

The new ruling on turning-signals recently went into effect in that state.

The "Pilot" Directional Signal, as made by Dietz, pioneers in lamp manufacture for almost 100 years, consists of four separate "arrow-lites," one for installation at each corner extremity of the vehicle, front and rear.

The driver's control of this signal is in a small metal box, containing switch, fuse, relay and a pilot light. This is attached to the steering post, under the wheel, within easy reach of the fingers without taking the hand from the wheel.

Dietz has recently issued a very complete motor lamp and parts price-list, including dozens of lamp replacement items, and new equipment that you can use in your every-day work. This includes flood-lights for road and shop, fog-lights, spot-lights, head-lights, stop-and-tail-lights and other lighting equipment.

May we suggest that you write for a copy of this "Lamp Manual" which perhaps will save you money on repair and replacement work. Copies are free for the asking. Write to R. E. Dietz Company, 60 Laight St., New York, N. Y. . . . Mention of FLEET OWNER will speed up the service.

•

"Magnusol" Cleaner

A NEW product being marketed by Magnus Chemical Company, Garwood, N. J., is called "Magnusol"—said to make oils and greases quickly soluble in water.

The manufacturers describe "Magnusol" as a neutral soap, soluble in either water or a solvent such as kerosene. It will make such solvents greatly improved in penetration, solvency and cleaning effect, it is pointed out.

"Magnusol" is recommended by the makers for handling the large number of cleaning jobs encountered in the fleet service station, including motors, chasses, floors and bodies. It can also be used for cold tank cleaning, in conjunction with kerosene, for such things as chassis parts, engine blocks, etc., etc.

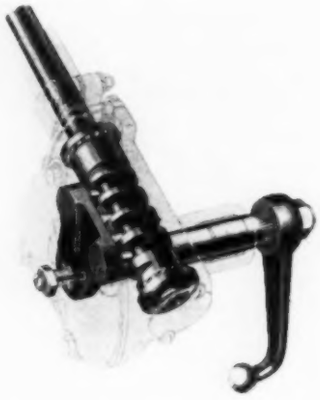
This product is claimed to be neutral and entirely harmless to the worker or to the article being cleaned, as it is *not* a strongly alkaline detergent, the manufacturers state.

A spraying tank and a 3-purpose brush are provided especially for users of this product, which comes in

powdered form. For further details address Magnus Chemical Company, 36 South Avenue, Garwood, N. J. . . . Mention of FLEET OWNER is always appreciated and sometimes speeds up the service.

New "Twin-Lever" Ross Gear

A NEW steering gear of the Ross cam-and-lever type, having a twin-lever feature, is announced by Ross Gear & Tool Company, Lafayette, Ind. A phantom view is pictured here.



Features as pointed out by the maker include (1) variable ratio; (2) increased angular arm travel; (3) greater capacity; (4) minimum of adjustments due to precision in manufacture; (4) simplicity of construction and adjustment.

The variable ratio feature, provided by the twin levers, permits easier parking and gives better control at high speeds. Increased angular arm travel provides a shorter turning radius and better maneuverability. Capacity is increased since the unit is subjected to lighter loading through shorter steering arms. The contact area of the cam-and-levers is increased 100 per cent.

The increased mechanical advantages, outlined above, eliminate the use of anti-friction bearings, excepting the two which support the "cam." These advantages also have a tendency to give a "precise feel," stability at higher speeds and minimize the need for frequent adjustments, the makers point out. Decreased wear under load is another feature stressed.

In the normal driving range, for instance, two studs are in engagement with the cam, as compared to a single stud on previous designs, reducing unit pressures by 50 per cent. As the gear moves away from the normal driving range into parking range, the usual single stud is in working position, with a 45% greater effective leverage.

Ross has prepared interesting literature that will explain more clearly how this unit works. For your free copy address Ross Gear & Tool Company, Lafayette, Ind. . . . Mention of FLEET OWNER always helps.

•

Catalog on Valve Packings

THE Wilkening Manufacturing Co., Philadelphia, Pa., has just issued a new catalog on Wilco valve stem packings in which are included for the first time listings of motor trucks and stock engines on which Wilco valve stem packings can be used.

The installation of this valve packing is extremely simple. It cuts its own groove in the valve guide. No special tools are required. There is nothing to interfere with valve action and the packing material used will not go to pieces in hot oil or gasoline according to the statements of the maker.

•

"Luber-finer" Filter

HERE is a new oil-filter from the Pacific Coast. It is called the "Luber-finer" and is made by Luber-finer, Inc., Los Angeles, Calif. This is how it operates:

Used oil from the crankcase enters at the top (A), and flows through the center perforated tube (B), which is covered with a protective covering of porous, fibrous material (C). Under normal pressure it is forced through the refining material (D), which is contained in the perforated cylinder (E), and then into the cylindrical space (F). It then follows the upward path, passes through the fine wire-mesh cloth (H) and then through the outlet opening (G), back to the engine.

Non-channeling devices in the top and bottom of the inner cylinder force the oil through the refining material and prevent any possibility of the oil passing through without being cleaned. There is no other passage, the makers state.

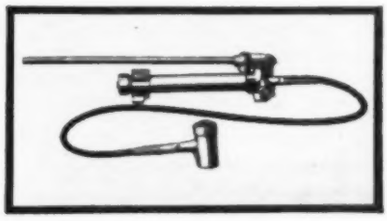
The refining material used, it is claimed, *absorbs* foreign materials and *adsorbs* decomposed parts of the oil, thereby restoring the lubricant to its original condition. The refining material is held in place by a metal screen and also by several layers of fibrous material.

For further information address Luber-finer, Inc., 1119 S. Hope Street, Los Angeles, Calif. . . . Mention of FLEET OWNER will speed up the service; we'd appreciate it, too.

•

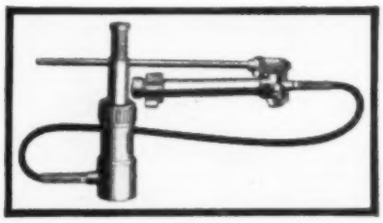
Porto-Power Additions

BLACKHAWK Mfg. Co., Milwaukee, Wis. has announced two additions to its Porto-Power line, one being a seven-ton short ram for close work on bodies, frames and fenders and the other a 20-ton Porto-Power ram unit for heavy-duty work on frames, axles, chassis and general shop work.



The new short ram has an overall length of 4½ inches when collapsed. It was designed for use in frame channels, between cross-members, in fender wells, or in other places where clearance is at a minimum. The plunger on the ram travels 2½ inches. Two adapters are furnished that lock into the plunger—a serrated saddle for ordinary work and an adapter which permits present Porto-Power attachments to be fitted on the short ram.

For heavy-duty work Blackhawk has introduced a new 20-ton Porto-Power ram unit, which can be adapted to cold-bending of frames and axles, or used inverted in a press frame as a 20-ton hydraulic press. The ram operates at full capacity in any position.

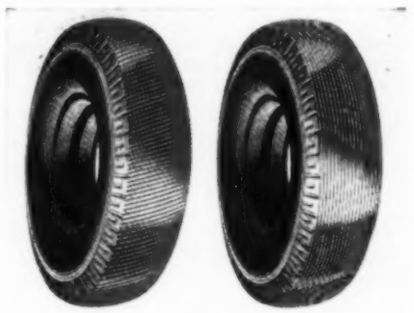


The collapsed height of the 20-ton ram is 10¼ inches. The hydraulic lift is 4½ inches, and with a screw extension of 3¾ inches an overall height of 18 inches is possible. The overall diameter is only four inches, which permits the ram to be placed close to work in crowded quarters. The base is threaded to permit home-made heavy extensions to be added or to mount the ram in a press frame.

For further information and free copy of a book entitled *"How to Use Porto-Power"* address Blackhawk Mfg. Co., Dept. FO6, Milwaukee, Wis. . . . Mention of FLEET OWNER always helps.

Bendix Acquires Peco

THE Peco Manufacturing Corporation of Philadelphia has become a Bendix subsidiary, it was recently announced. Principal products of Peco are devices for regrooving and slotting tires, which now will be called



"Bendix-Peco Nu-Grip" equipment.

With Bendix-Peco equipment any one of the various "X", diamond, or zig-zag patterns can be quickly and economically produced. A combination of newer equipment will also produce diagonal, or spiral-diagonal patterns.

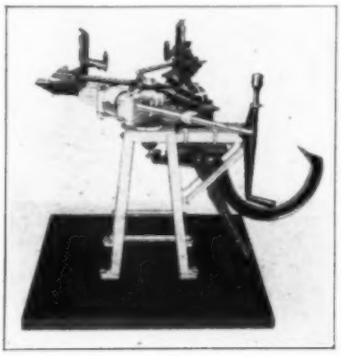
Two of the newer types of regrooving are shown in the accompanying illustration. These are said to offer pronounced resistance to side-slip, greatly increased traction, a minimum of wheel-spin and to provide improved acceleration and deceleration, especially on wet pavements.

For further details covering this combined regrooving equipment, write to O. C. Holaday, Service Sales Manager, Bendix Products Corp., South Bend, Ind. . . . Mention of FLEET OWNER when writing, will speed up the service.

•

Manley Tire Changer

THE new Manley No. 905 Tire Changer has been completely revised, bringing it up-to-date to handle the latest tire sizes, the makers state.



Jaws are now made deeper and stronger to handle the wider rims. Auxiliary jaws have been added for taking care of drop center rims. Clamp for handling disc wheels has also been provided.

The solid rim attachment can be instantly removed from the tire changer, so that it is out of the way when not in use. The jaws slide on steel "T" sections, which are bolted to a malleable iron spider. With this construction, rims from 16 to 26 inches in diameter can be handled.

A tool tray for holding the tools for tire work is mounted on one leg of the frame. There are but two operating parts; thus the tire changer is easy to operate. For further details address Manley Manufacturing Company, York, Pa. . . . Mention of FLEET OWNER always helps.

•

Paint in Stick Form

REAL paint in stick form which is claimed to be easily applied to any wet or dry surface, and which will not run when applied to hot metals, is a new development announced by Helmer & Staley, 2499 So. Parkway, Chicago, Ill.

"Markal" is the name of this new stick paint, which is made in two types—for hot and cold marking. For cold marking the product is recommended for use on all metals, including structural steel, steel sheets, galvanized iron, glass, cardboard, boxes, crates, lumber, stones, etc.

For hot marking on such things as steel shapes, forgings, castings, pipes, billets, etc., this product can be used at temperatures up to 1200 degrees F.

The stick paint is furnished in black, white, red, yellow and blue. It is claimed not to be chalk or crayon; however it can be carried in the pocket as easily as a pencil. Further details may be had from the maker on request.

•

Portable Gas Analyzer

AS a smaller companion to the Model "P", the Model "H" Moto Vita Carburetor Analyzer has just been put on the market, by Joseph Weidenhoff, Inc., 4340 Roosevelt Road, Chicago, Illinois. It is a portable unit and may be carried about by the handle or mounted on a stand and used as a stationary piece of equipment, like the larger analyzer.

Since a certain amount of water is always present in exhaust gases, provision has been made in this instrument for draining the water automatically from the element chamber. The combustion meter uses the Wheatstone Bridge method of analyz-

ing exhaust gases, which is one of the most accurate and fastest methods, it is declared.

The new unit also makes possible the checking of back-pressure in the exhaust system, it is claimed. For further details, write to the manufacturer, mentioned above. . . . And if you tell him that you saw his announcement in FLEET OWNER, he will appreciate it—and so will we.

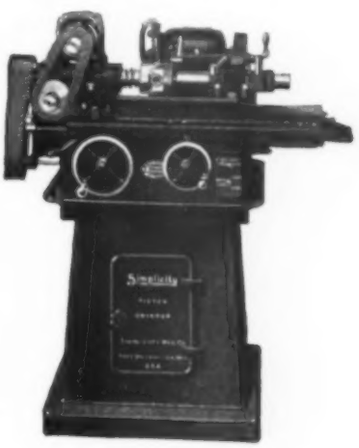
•

New Piston Cam-Grinder

THE new Master and Standard models of Simplicity power-feed, piston turning and grinding machines are equipped with a new "Indicator Caming Device," it has recently been announced.

This does away with all cams, it is claimed, and makes it possible for the machines to handle all cam-ing jobs (odd or even) from six thousandths up to twenty-five thousandths.

The Master model has a capacity of 15 inches in length and 7½ inches in diameter, and will turn and grind straight, round and cam all pistons, in automobile, truck, bus and tractor



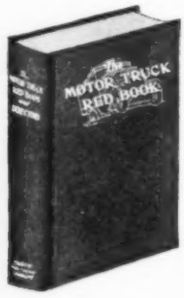
sizes. The Standard model will grind straight, round and cam all pistons up to 7 inches in diameter and 8 inches in length.

For further details address The Simplicity Mfg. Co., Port Washington, Wis. . . . Mention of FLEET OWNER will speed up the service.

Motor Truck Red Book

A NEW edition of the Motor Truck Red Book has just been issued, covering practically every phase of motor truck operation.

This volume has been written by well-known authorities in all branch-



es of the motor truck field. It is printed in reference-book style, with a completely cross-indexed reference.

It contains much information and valuable forms, documents, statistics and charts. Among the many chapters you will find a detailed discussion of costs, accounting, taxes, insurance rates, tariffs, laws. regulations, etc., which can be applied to both large and small operations.

This book should aid motor carriers, shippers and receivers in their problems of motor truck transportation. It brings together, under one cover, factual data relating to the laws, rules, regulations, tariffs, standard forms, etc.

Published by Traffic Publishing Co., 100 Sixth Avenue, New York, N. Y. The price is five dollars per copy.

•

Puncture-Proof Material

AFTER having been tested in actual service, a new puncture-proof chemical discovery has recently been introduced by the General Tire and Rubber Company. Known as Airex, it has been developed by a German inventor, and is being marketed through the Dutch Airex Corporation of America, Ltd., of Akron, Ohio.

It has been demonstrated that Airex makes tires run cooler and that it reduces to a minimum the natural seepage of air through rubber, thus preventing injury to the tire through under-inflation when air pressure is not checked frequently, General officials state.

Airex is applied to inner tubes through the valve stems by the use of a special Airex pressure gun, which is operated by attaching it to an air tank with pressure of between 100 and 150 pounds. It is not necessary to remove the tires in order to apply it and there is nothing to add or mix to the chemical.

Rotation of the wheel on the road spreads a protective coating of Airex inside the tube, which coating remains in place regardless of the length of time that the tire stands, it is claimed, and that Airex never clogs the air valve.

Punctures close up immediately and permanently in Airex-treated tubes, they tell us. Tires punctured with 60 nail and spike holes have made test runs of seven months' duration without losing a pound of air pressure, it is said.

One New York taxicab company reported that it had had an average of 150 punctures a month before using Airex but that, during the first month using Airex, only one flat tire occurred. Another user reported that he had obtained 6,000 miles of uninterrupted service with two test tires, filled with Airex, that carried 200 punctures, according to factory officials. . . . For further details, address General Tire & Rubber Co., Akron, Ohio, mentioning FLEET OWNER, if you please.

•

Hydraulic Control Hose

THE B. F. Goodrich Company, Akron, Ohio, have introduced a complete line of hydraulic control hose

for use on dump trucks, snow plows, graders and other portable equipment.

It consists of a specially-compounded, oil-resisting rubber tube; one, two or three plies of exceedingly strong braided wire, with a layer of braided cotton and a rubber cover. In sizes ¾" and larger, a layer of cotton duck is imbedded in the rubber tube to prevent the development of pin hole leaks. All braids of wire and cotton are inserted in rubber.

Some braided hose is apt to contract in length when under pressure, resulting in a tendency to pull out of the couplings. Goodrich hose is designed to elongate slightly under pressure, thus preventing such action.

Owing to the method of braiding, this hose bends easily when pressure is applied and remains pliable at normal working pressures. The wire braid, which is exactly laid, allows flexibility but does not permit rotation or torsion.

Goodrich Hydraulic Control Hose is available in sizes ranging from ⅜" to 1¼". A permanent, pressed type of coupling is recommended and supplied by the manufacturer but the hose construction permits use of any of the standard detachable types, if desired.

•

Traffic Dictionary Issued

THE third and revised edition of the "Traffic Dictionary" has recently been issued. This is a 224-page, pocket-sized book, containing a glossary of terms used in marketing, trade and distribution.

In it, more than 2,500 traffic expressions, terms and abbreviations are made clear in the first section. These are fully explained, alphabetically arranged and fully cross-referenced.

The second section is an appendix describing and illustrating shipping room equipment and supplies. The value of the appendix is said to lie in its up-to-the-minute information regarding modern shipping methods.

The price of the "Traffic Dictionary" in stiff, cloth-covered board binding is $1.25 per copy. Published by Shipping Service Organization, 2040 Grand Central Terminal, New York, N. Y.

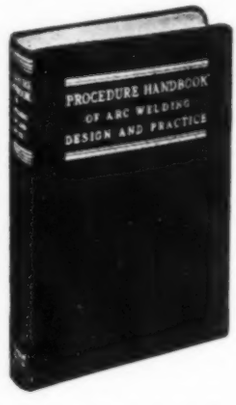
•

Arc-Welding Handbook

"THE biggest dollar-and-a-half's worth that you ever will get in your life." That is the way we would describe the new text-book on arc-welding, recently published by The Lincoln Electric Company, Cleveland, Ohio.

Starting with the handsome, flexible leatherette covering, and thumbing through its 586 pages, we find the book completely and profusely illustrated with several hundred sketches, photographs, diagrams, etc.

Its nine chapters tell you everything you need to know about electric arc-welding, what equipment you need, the correct procedure control and the entire technique of the art



of arc-welding, from A to Z. If arc-welding has been sort of a mysterious subject to you, this book will set you right.

The page size is approximately 6 x 9 inches. The price is $1.50 and the publisher is Lincoln Electric Company, Cleveland, Ohio. . . . Don't say we didn't tell you about it.

Painting a Rental Fleet

(*Continued from page* 22)

plete burn-off is done each year. Mr. Fischler explained this by declaring that a touch-up, if properly done, will take almost as long as a burn-off job, on account of having to save lettering, decorations, etc., and that such a job never looks as well, or stands up as long as the complete job. The time taken for a touch-up job in this shop is from two to three days. For the complete burn-off and refinish job, it takes a full week in the paint shop in most cases, although they have done some jobs in less time.

Another paint schedule followed in this fleet is the "touch-up" job. This is done every six months on some vehicles—even on some of those that are burned off every year. In other cases the touch-up is done in place of the complete burn-off, and again we must say that it all depends on the condition of the finish and the service which the vehicle has seen.

The touch-up procedure is as follows. First the truck is washed completely. Then everything is rubbed down by wet-sanding and pumice. Dents and scratches are touched-up; lettering is checked and fixed up where necessary and restriping is done where it is needed. After all of this preliminary work is finished, two coats of clear are applied, spraying "round and round" as before mentioned. This touch-up job with clear is done even on white and cream-colored jobs. The milk-trucks that see especially hard service are only repainted once a year, giving them the complete "works" as mentioned previously; they never get the touch-up, as some of the others do.

The third paint schedule consists of a touch-up using color. In this type of job the lettering is saved, by "masking" it out with liquid masking compound. Sanding around lettering is done carefully; then the color coats are applied in the usual manner. Then, after an overnight-dry, the masking compound is removed, more light sanding is done, and the coat of finishing varnish is applied. This paint schedule is seldom used in the fleet; it is done only in special cases.

Perhaps you will wonder what the customers are using for trucks while the regular truck is in the paint shop? The answer is that "spares" are provided and in most cases these are of the same color-scheme as the rest of the customers' trucks, except that they have no lettering or decorations. These "spare" trucks and also those that are rented out on temporary contracts are sometimes finished in red primer only. This type of finish looks fairly presentable and makes it possible to immediately "convert" the truck to a "regular" in the event of a rush demand for same, simply by sanding down the primed surface and applying the color coats, lettering, decorations and finishing "clear."

We haven't said anything about fenders as yet. On complete repaint jobs fenders are primed, filled, color-coated and finished with clear, just the same as the bodies, the only difference being that all fenders, splash aprons, etc., are *brushed*, instead of sprayed. Another thing, any color is used on these parts, "provided it is black." Mr. Fischler's experience has taught him to "lay off" colored fenders. They're too hard to match up when patching up dents, and by standardizing on black fenders for the whole fleet, repair jobs are greatly simplified.

For touch-up jobs on fenders, after minor repairs have been made, this fleet follows a procedure that is somewhat unusual. The entire fender is done over, except in very small jobs, and here is what they use: two coats of flat black; 1 coat of color varnish; then an overnight-dry; then a couple of "coats" of sandpapering and rubbing down. Then one coat of finishing varnish, all of which is brushed on. We saw a fender that had recently been refinished in this manner, and you could literally see your face in it—it shined so brightly. All minor touch-up work is done immediately. For, in a fleet operated as this one is, appearance counts a great deal.

Mr. Fischler believes in aluminum paint for use on roofs and uses a great deal of this commodity. They also use it on radiator guards (every truck has one) and also on bumpers,

POSITIVE
. . . LUBRICATION FOR "SHOCK POINTS"
Due to the microscopic fineness of "dag" colloidal graphite, it readily flows with the oil to main and connecting rod bearings forming a positive, self-lubricating surface on all the "shock points". ✦ ✦ This graphoid surface greatly helps to hold the oil in place. ✦ ✦ It also functions as a dry lubricant, should a forgetful driver allow his oil level to go below the danger point. ✦ ✦ These valuable characteristics of lubricants containing "dag" colloidal graphite go a long way toward assuring extra protection for automotive engines.
Ask your oil supplier about his colloidal-graphited brands today.
ACHESON COLLOIDS CORPORATION
Founded (1908) as Acheson Oildag Company
PORT HURON MICHIGAN
A photograph of electron diffraction pattern which identifies a graphoid surface on cast iron.
REG. U.S. dag PAT. OFF.
COLLOIDAL PRODUCTS
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COLLOIDAL GRAPHITE

ACHESON COLLOIDS CORP.
PORT HURON, MICH.
PLEASE SEND GRATIS, STORY ON "DAG" COLLOIDAL GRAPHITE.
NAME .....
ADDRESS .....
CITY ..... STATE .....

when the original plating becomes unsightly. We do not have to stress the qualities of aluminum paint, particularly its heat-reflecting properties, which are especially desirable on refrigerated jobs.

After the finish is put on, it's important to keep the vehicle looking well. Therefore, all trucks are washed when needed, even if it is every night, according to the whims and fancies of one Jupiter Pluvius. When it does not rain, the trucks are "ragged off" each night with a dry rag, and a liquid polish is applied to clean up any dull or dirty spots. Incidentally, they use plenty of it in this fleet. The day we were there they placed an order for about 10 gallons of it.

In order to take full advantage of the advertising value of a good paint job, each truck is equipped with a flood-light mounted on top of the cab, which throws a bright light on the front of the body, where there is usually an advertising sign. The "customers" seem to appreciate this service very much; one can't do too much advertising, you know.

Another good stunt we observed is this. Several of the "spare" trucks have the name "New York Truck Renting Corporation" neatly painted in large lettering on the main side panels of the bodies. Sometimes one is hired out for a period of a month, or so, and the lessee desires his own identification on the truck. In cases like this, the original lettering is not destroyed, but a temporary canvas is laid on the entire panel, secured with half-round moulding on all four sides to present a smooth surface, and the name of the lessee is then painted on it, over a solid color background to match the rest of the body. When the contract is up, off comes the canvas and back into "service" goes the truck.

All trucks owned and operated by this Company have the company emblem either on the cowl or on the doors of the vehicles. Sometimes it is painted on; other times it is put on in the form of a small insignia bearing the lettering "Leased from New York Truck Renting Corporation."

And that, folks, is the story of a truck operation with a paint procedure that's *different*. We have pledged ourselves to visit them again and gather up a complete maintenance story covering *all* phases of servicing of this unusual fleet. You can look for it in an early issue and we will try to make it as interesting as this one was. Or wasn't it?

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Greyhound Safety Practice

(*Continued from page* 26)

tuted safe driving. A safety campaign must be an intelligently conducted campaign to get results. If these ten safety rules were always observed by the twenty or more million persons who drive private cars throughout the country the problem of highway safety would be practically solved.

This article does not attempt to furnish the one and only panacea for accidents, but we know that these methods do keep our Greyhound drivers "safety conscious." Some wiseacre once said that the proof of the pudding is in the eating. So pass your plate and get a helping of this satisfying dessert:

Since 1929 when our present system of safety contests and awards was started, all of the participating Greyhound Companies have had a steady and progressive year by year improvement in their safety records. Good improvements have been made one year only to be succeeded by further improvements the following year. These improvements have been permanent and continuous and not merely spasmodic or temporary.

There have been records made by some of our operating regions in safety contests (over a period of sixteen weeks) of from 200,000 to 350,000 miles per accident. Two regions have established world's safety rec-

COULD A CHAMP BREAK PAR WITH A SLEDGE-HAMMER?

You'd say "no," and you'd be right because the unwieldy dead weight of a sledge-hammer would be much of a handicap rather than a help. But a truck or trailer loaded with dead body weight is no more ridiculous or unnecessary than a golfer playing with a sledge-hammer.

On your next truck or trailer specifications insist on Plymetl. It eliminates dead weight, makes flatter, smoother and stronger bodies and it's much stiffer than steel of the same weight.

Plymetl requires no inside braces or supports to give it needed rigidity and strength, and it permits heavier pay-loads which is extra profit.

Plymetl is extremely light, yet extra strong and exceedingly durable.

SHOWN BELOW, THE STUTZ PAK-AGE-CAR FOR FREQUENT STOP DELIVERIES—PLYMETL BODY

HASKELITE MANUFACTURING CORPORATION
208 WEST WASHINGTON STREET, CHICAGO, ILLINOIS

ords of more than a million bus miles without a mishap of any kind. Any contact our bus has with another vehicle, a person, or an object is counted as an accident—no matter how slight the damage.

Greyhound drivers have established a safety record that they may well be proud of.

(EDITOR'S NOTE: *This interesting article which outlines the various safety methods successfully used by Greyhound Management Company, was written originally and published in "The Highway Traveler"—Greyhound's own magazine. . . . Because it was so full of "meaty" experience data in establishing a fine safety record, we arranged to publish it this month, so that other fleet operators could profit by the experience of this national fleet.—H. C. F.*)

•

"L-I-G-H-T-S"

(*Continued from page* 30)

are, to our knowledge, no lights that will penetrate fog, but there are definite fundamentals that can be incorporated in a light that are helpful in driving through fog, rain, or snow.

To be effective in fog a light should develop a rich, powerful, amber beam, and the beam must be spread in a wide pattern, with its upper portion actually cut off in a straight line so that no stray rays will rise above the level of the beam itself. That kind of light, mounted low on the front of the vehicle, will throw its beam well under a fog or falling snow, enabling the driver to proceed in safety at a moderate speed.

I have read some interesting letters from users of fog-lights of the type shown in the accompanying illustrations. They say that these lights are just as valuable on wet pavement as in fog, inasmuch as the amber beams are not so greatly reflected by the city pavement surface as are those of conventional headlights. In the case of pavements covered with ice and snow, an amber beam is more restful to the eye and gives a better outline of the road.

Another lighting problem confronting the operator whose trucks travel at night is that of providing ample warning to traffic in the rear when it is necessary for the truck to stop on the highway. Flares are specified for this purpose under most state laws, and the driver should set them out at the proper distance in front of and behind his vehicle.

Since it has been reported that more than 50 per cent of fatal accidents involve rear-end collisions, it would seem wise to also illuminate the rear of the truck as a protection against those who drive with poor headlight equipment. For this purpose a powerful warning beacon, visible for two miles on a clear night, has been developed. This lamp is equipped with an automatic flasher unit operating 35 times a minute, and with no greater battery drain than that of an ordinary 32 candle power bulb, it is claimed. It develops 120,000 candle power with a red beam, which is so directed as to eliminate glare entirely at close range. Lights of this type are also used by police and fire departments with specially lettered lenses for identification purposes.

Since the whole country is thinking of safe-driving, not only with a view to cutting down accidents and the loss of lives, but as an economic consideration as well, every truck operator will do well to look to his lighting equipment. A line to the Editor of this publication will bring catalogs of lighting equipment of several manufacturers, without the slightest obligation on your part.

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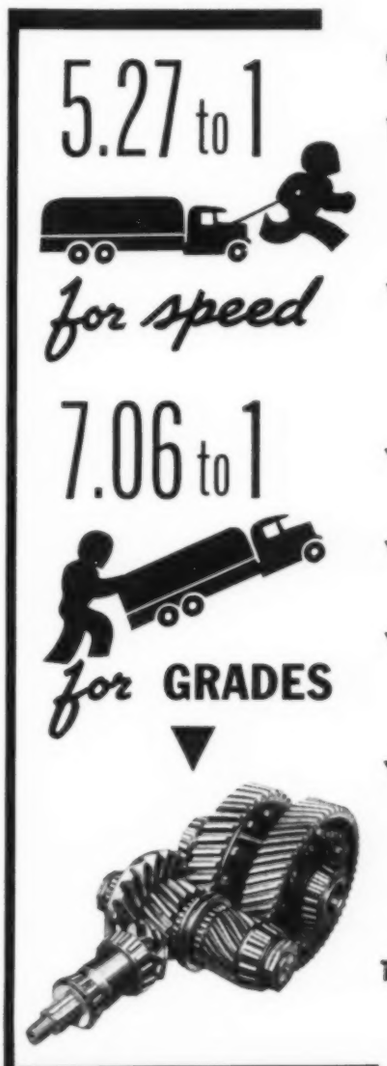
Uses Rubber-Lined Tanks for Acid

THREE steel truck tanks, lined with Goodrich rubber, are used by Merrimac Chemical Company, Everett, Mass., for local delivery of acid. . . . Each tank is filled while suspended from the loading platform and is then lowered onto the truck chassis to form a complete unit. When the truck returns, the tank is removed and a full one substituted. . . . This system of detachable rubber-lined tanks is said to speed up the company's deliveries considerably.

A better 2-SPEED AXLES

2-SPEED AXLE ...TIMKEN

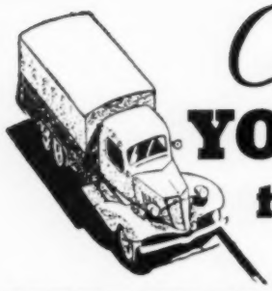


- a double-reduction drive; the kind of axle available before only in heavy duty, finest quality trucks selling up to $5000
- full "man-sized" gears in both ratios; all the rugged strength and efficiency for which Wisconsin Double-Reduction Drive is famous
- only three additional working parts give you an extra ratio
- perfect accessibility—an easily removable carrier
- a sensible way to increase average vehicle speed, and cut operating costs
- a better 2-speed axle; the fine quality of design and workmanship you expect of Timken

the world's largest axle builder

THE TIMKEN-DETROIT AXLE COMPANY
DETROIT, MICHIGAN

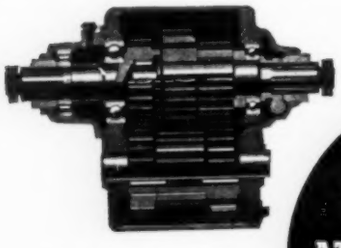
WISCONSIN AXLE DIVISION
OSHKOSH, WISCONSIN



Convert YOUR TRUCK to 3 axle ratio

MAKE IT AN ALL-DUTY TRUCK

Take a tip from successful Operators of big trucks. Use 3 axle ratios. Dependable operation under all conditions demands more flexibility. Speeds must be properly spaced to give a low ratio for ruts and grades — a high ratio to reduce engine speed in the cruising range, and a medium ratio for intermediate work. Multiply your truckability by 3. The best way to get all these advantages in ONE unit is to install a 3-speed Watson-Brown-Lipe Auxiliary Transmission back of the main transmission. This improves the entire power line, gives 52% more power in low ratio, 23% fewer engine revolutions in high ratio, and 10 other necessary speeds.



100% Salvageable

SAVE 20% GAS & OIL AT CRUISING SPEED

ADD 52% MORE POWER ON HILLS

For Every 1 to 3-Ton Truck

Figure your saving at 20% less gas, oil and engine wear. Consider particularly the prolonged life of your engine and fewer repairs resulting from millions of engine revolutions saved in a year.

Ask for Literature

INSTALLED IN ANY TRUCK IN *few* HOURS

Can you afford to operate a 1-axle ratio truck against the competition of 3-axle ratio advantages Ask for full information from your nearest Distributor.

Watson-Brown-Lipe Auxiliary TRANSMISSION

"Power Take-Offs — Universal Joints — Tru-Stop Brakes"

H. S. WATSON CO. • 531 - 4th Street, San Francisco

P. O. Box 385, Toledo, Ohio

REGIONAL DISTRIBUTORS

Billings, Mont.—Shaw Sales Co.
Boise, Idaho—Olson Manufacturing Co.
Buffalo, N. Y.—Truck Equipment Co., Inc.
Butte, Mont.—Anderson Motor Co.
Cambridge, Ohio—Allison Body Sales
Chicago, Ill.—Erlinder-Platt Sales Corp.
Columbus, Ohio—Hercules Body Sales Co.
Denver, Colo.—Timpte Brothers
Detroit, Mich.—H. & H. Wheel Service, Inc.
Ft. Wayne, Ind.—Allied Truck Equip. Co.
Ft. Wayne, Ind.—M. E. Raker
Fort Worth, Tex.—Hobbs Mfg. Co.
Houston, Texas—Hobbs Mfg. Co.
Indianapolis, Ind.—Allied Truck Equip. Co.
Jacksonville, Fla.—L. S. Teague & Co.
Kansas City, Mo.—Dealers Transport Co., Truck Equipment Division
Los Angeles, Calif.—Lambert Co., Ltd.
Louisville, Ky.—Dealers Truck Equip. Co.
Newark, N. J.—Wheels, Incorporated.
New Orleans, La.—John M. Walton.
New York, N. Y.—Wheels Incorporated.
Philadelphia, Pa. (Frankford)—Truck Equipment Co., Inc.
Phoenix, Ariz.—Welch Manufacturing Co.
Pittsburgh, Pa.—Auto Truck Equip. Co.
Portland, Ore.—Wheel & Rim Service, Inc.
St. Paul, Minn.—Colby, Ramm & Co.
Salt Lake City, Utah—Koepsel & Love.
Seattle, Wash.—A. D. Blackler Company
Spokane, Wash.—Roy E. Hotchkiss Co.
Toledo, Ohio—Turner Brake Service.
Tulsa, Okla.—Braden Winch Service Co.

"Safer Than Your Own Fireside"

(*Continued from page* 18)

"It seems like some automobile operators have their mind on everything else but driving their car and there are others who have never heard of giving a signal to oncoming traffic. The law states that you should have your car under control at all times, but what about the other fellow? If you don't give him a thought it may mean a serious accident. A good driver must share his driving with the careless drivers for his own safety and happiness, because a careless driver lives a short life.

"In my estimation, driving is a habit based on experience and intelligence. If a person has a certain amount of each, and uses it, he may drive continually without having a serious accident."

That many of the automobile accidents on our highways are entirely avoidable is strikingly emphasized in the achievement of these AC drivers. The promotion of safety is a most important activity at AC and no means are spared to protect the employees from accidents.

Safety work and personnel activities at AC are under the jurisdiction of George Mann, Jr., director of industrial relations. He has contributed greatly to the outstanding safety record which for some time has been maintained by the Company.

The safety achievement of these truck drivers is regarded as importantly significant because it corresponds to safety accomplishments made in the company's factory during recent years. These accomplishments are the result of directed efforts in which the AC management has promoted safety education, created among its employes a better and more appreciative understanding of the subject, and in addition to the usual mechanical safeguards, has created special safety equipment. So far this year, with some 4,500 persons employed, there have been but two lost time accidents at the AC plant.

●

Why Change to Summer Oils?

(*Continued from page* 29)

cases accruing from extreme temperature variations the same as with gas tanks.

In the case of E. P. oils, practically all authorities agree that because of their nature, it is highly advisable to drain them out completely and refill with fresh seasonally—and between seasons at 5,000-mile intervals.

●

Selecting Truck Colors

(*Continued from page* 33)

one-third, with black stripes, similar to the striping so often used on poles, or other objects abutting on the roadway at curves and other dangerous places.

The black stripes should not be less than six inches broad, to insure visibility. The stripes should be at a 45 degree angle so that they be not confused with vertical or horizontal stripes or objects along the roadside. They should not occupy more than one-third of the space—in other words, they should be separated by twice their own width.

An alternative method which has been adopted by several truck operators, including The Adley Express Company, New Haven, Conn., whose unit is illustrated at the head of this article, is to finish the rear-ends of trucks with a black and white "checkerboard" pat-

tern. If tarpaulins are used, these can very readily be painted in this pattern, as shown in the picture.

Various other suggestions of the National Safety Council follow:

Wheels, chassis, and other irregularly shaped parts may be painted aluminum, which gives sharp and bright reflections on small areas and thus improves visibility.

To increase efficiency of a proper paint job, it should be frequently cleaned.

Where color schemes are important from an advertising standpoint, they should be so arranged that the background colors are light and the lettering or striping is dark. The name of the company painted in block letters across the back of the truck might well serve the same purpose as diagonal striping.

Reflector buttons carry "high-light" spotting to its maximum efficiency. Names on trucks can be effectively outlined with these buttons. Luminous paint has a tendency to peel and chip.

American Trucking Associations, Inc., recommends that truck owners give serious consideration to this question of "painting for safety." If the color scheme now used on your trucks does not come up to standard, then immediately consider adoption of a new color scheme and as rapidly as the present paint needs refinishing, change over to the new color or colors. Within the course of a year your entire operation probably can be repainted with little lost time and a minimum of inconvenience.

In making such a change, it is recommended that you adopt a background reflecting at least a minimum of 50 per cent of light, and wherever possible a color that is in the 60 per cent or higher class.

In the case of contract carriers, whose vehicles are painted according to the specifications of the customer, and a color scheme of poor visibility is used, permission should be obtained to at least repaint the rear end with a "safe" color scheme.

●

Eliminating Noise in Car Radios

(*Continued from page* 35)

properly spaced.

(EDITOR'S NOTE:—Because of the fact that radio is gaining in popularity, not only in passenger cars, but in police cars, buses and in long-distance truck cabs, the appearance of the foregoing article in FLEET OWNER is quite timely. It comes from the pen of Mr. R. W. Channel, of Henry L. Doherty & Company, sponsors of the "Power Prover" tune-up service, through the Cities Service Company.—H.C.F.)

●

A.A.A. Truck Tests

(*Continued from page* 40)

The crankcase, transmission, and rear axle are sealed.

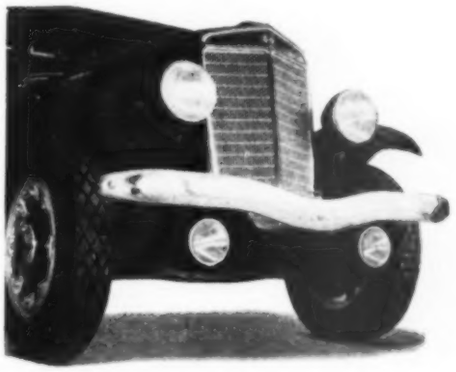
Each morning when the truck is loaded, Larson records the number of packages to be delivered. He remains with the truck throughout the day, keeping an exact record of the time of each delivery, the mileage between stops, and the nature of each delivery or pickup. He also is required to report any mishap, no matter how trivial, should any occur during the test.

A regularly employed Marshall Field delivery crew mans the truck, which operates from their Evanston, Ill. store.

INCREASE SAFETY
WITH
LORRAINE
DRIVING LIGHTS AND SPOT LIGHTS

● Safe driving is a nation-wide topic of interest to everyone, creating a widespread demand for better road illumination after dark. Few realize that the ratio of fatal accidents to total accidents occurring during dusk and darkness, is 92% greater than for daytime accidents. A reasonable rate of speed for daytime may be dangerous at night without the proper lighting equipment.

The Lorraine Fog Light has been developed and designed to meet the most hazardous driving conditions, and is effective in fog, snow or on wet pavements. It is a pleasure to drive behind a pair of Lorraine Fog Lights, and every user becomes a booster. Model 45 is all chrome plated, listing at $8.50. Model 47 is black enamel with chrome rim, listing at $6.00. Large, heavy bracket fits all model cars, buses and trucks. Long metal shielder wire and attractive instrument panel switch included.



The Appleton Electric Company, manufacturers of Lorraine, the finest driving light in the world, now offer a complete line of auxiliary lights, representing good profits to our dealers. An attractive catalog is supplied on request, together with the name of the wholesale distributor serving your territory.

APPLETON ELECTRIC COMPANY
(AUTOMOTIVE DIVISION)
1714 WELLINGTON AVENUE
CHICAGO, ILLINOIS

New Kroger Tractor Fleet

(*Continued from page* 38)

the making of deliveries to various stores results in the loads being decreased as the daily mileage increases.

Leaving St. Louis, Mo., the tractor-trailer units travel as far north and northeast as Quincy and Charleston, Ill., and west and south as far as Clarence and Dixon, Mo. The routes traveled daily range in length from 300 to 380 miles. When the units return to the St. Louis warehouse, new crews are waiting to use the tractors on city deliveries. Thus the tractors sometimes travel more than 1,900 miles per week.

It has been definitely stated that the use of lighter equipment in the Kroger fleet has resulted in their St. Louis division having a lower operating cost level than the rest of the Kroger fleet as a whole.

The question of "light" versus "heavy-duty" units for tractor-trailer service is, of course, a very highly debatable one at this time and Kroger's experience seems to "state the case" for the "light" equipment very thoroughly. Among the factors pointed out are the following:

The reduction of the capital investment per tractor by more than 75 per cent.

The halving of maintenance costs.

The lowering of operating costs.

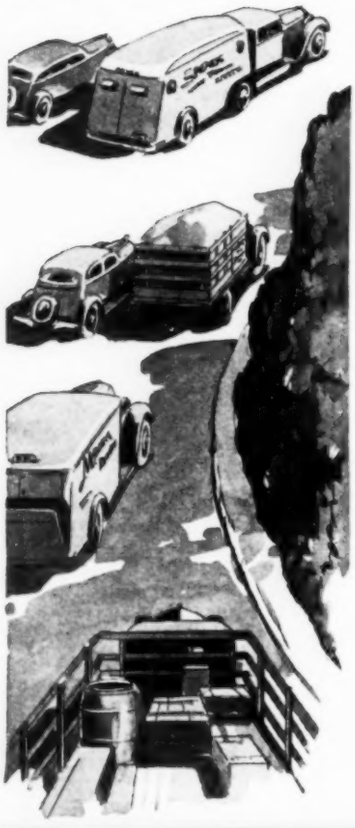
The reduction of fixed charges.

It will be quite interesting to follow up this development to see how it works from the "long-pull" standpoint. Advocates of "heavy-duty" equipment, of course, are skeptical. In this connection it is interesting to note that the factor of depreciation has not been overlooked in Kroger's figuring, according to Ford Motor Company officials.

Use of the same depreciation bases, per mile, on these tractors, that is used on the rest of the Kroger fleet, has resulted in the complete depreciation of the very first tractor of this type purchased some time ago by the division, and it is pointed out that this particular unit is still in regular service making its daily trips.

This trend towards the use of lighter units is one that will undoubtedly provide many interesting discussions pro and con, and the foregoing information is offered for whatever it may be worth, on the basis of its value as news.—*Editor.*

A SAFETY FLEET OF 1,250,000 Vehicles



MAJOR ACCIDENTS are almost always the result of high, ungoverned speed.

To prevent such accidents, automotive transportation, to the extent of more than a million and a quarter vehicles, uses Handy Governors.

Records prove that Handy-Governed cars and trucks almost never CAUSE major accidents and are very seldom involved in them.

Since 1921, Handy Governors designed by A. A. Bull and manufactured under his direction as President of this Company, have been preventing major accidents, and promoting safe traffic on the highways of the world.

This Company also manufactures the famous high-efficiency Handy Perfection Air Cleaner and the new Handy Oil Conditioner which keeps motor oil forever fresh.

HANDY GOVERNOR CORPORATION
DETROIT

HANDY GOVERNORS

"Locals" Seek Consideration

POINTING out that approximately one million motor trucks or a third of the national total are engaged in strictly local service and as "terminal units" serving all forms of transportation, the National Local Trucking Associations, Inc., recently urged that these types of operations be given adequate consideration in the effort to solve the nation's transportation problems.

The statement by the newly-formed association followed a meeting of its executive committee, which drafted a "statement of policies" to govern a broad-gauge program to safeguard the interests of local truck operators, shippers and the public.

Simultaneously, the organization appealed to the Interstate Commerce Commission to classify local trucking service as "separate and distinct" from other types in the program to coordinate competing forms of transportation by highway, rail, air and water. Full cooperation was pledged to the ICC in promulgating adequate rules and regulations for the industry.

The "statement of policies," issued by Philip A. Smith, Jr., of Chicago, President of the National Local Trucking Associations, Inc., said:

"Local trucking service differs in many important respects from longer distance over-the-road highway carriers. And it is imperative that such operations be separately and distinctly classified.

"This service is an essential link in a complete transportation service, and the public interest requires that it impartially and efficiently supplement in its restricted areas the ser-

vice rendered by all mediums of transportation. This need is emphasized by the fact that local trucking service is not in competition with highway, rail, air and water carriers. Coordination of these competitive agencies is the objective of regulatory measures enacted by Congress.

"Shippers are almost wholly dependent upon local trucking service, and the experience of operators, to assure the expeditious handling and routing of their traffic. Thus the local trucker renders an important service to shippers, as well as to long-haul transportation agencies. Any undue disturbance of the present interlocking relationship is certain to be detrimental to the public interest.

"Modern pick-up and delivery service offered by local trucking service is a natural and necessary development of coordinated service. And sound transportation economy demands that individual enterprise be preserved against monopoly, and that charges made by all forms of transportation be adequate to sufficiently compensate all units engaged in providing the complete service."

Recognizing the vital importance of highway safety, the association has pledged its unqualified support to the Secretary of Commerce and other agencies concerned with safer use of the streets and highways, with particular regard for sound municipal traffic engineering inasmuch as local trucking service is rendered principally in municipalities.

•

Socony Wins Safety Contest

FOR operating a fleet of fourteen tank trucks a total of 2,912 hours without an accident in the city of Schenectady, N. Y., the Socony-Vacuum Oil Company was recently named winner of an inter-fleet safety contest sponsored by the Chamber of Commerce of that city.

The contest is divided into three classifications and monthly announcements are made of the winners. The classifications include companies operating thirty or more trucks; those operating from six to fifteen trucks, and those operating five or less trucks.

Socony-Vacuum has for some time carried on an active campaign among the drivers of its trucks to promote courtesy and safety on the highways, according to R. G. Hotaling, district manager of the company. "With the work which is being done by the major oil companies in attempting to promote safe driving among motorists, it is now particularly essential that we set high standards of safety for ourselves," he declared.

Month to month and year to year, safety records are kept by the district offices of the company in an attempt to improve safety standards and bring the number of accidents down to an absolute minimum, Mr. Hotaling declared.

Taxes Reach New High

TRUCK taxes established a new all-time high record of about $314,000,000 in 1935, according to a study made by the American Petroleum Industries Committee.

Although commercial highway freight vehicles last year constituted only 13½ per cent of all vehicles registered, they paid 24.4 per cent of the total motor taxes. The $314,000,000 tax bill was only 20 per cent less than the value of all trucks manufactured in the United States during the year of 1935, it is reported.

Truckmen pay at least 27 different forms of levies, as follows: Federal gas, oil, parts and accessories, trucks, tires and tubes; state—registration, gasoline, weight, ports of entry, tolls, property taxes, permit fees, trailer fees, ton-mile levies, gross receipts, vehicle-mile taxes, general sales taxes, income, inspection fees, franchise fees, and privilege taxes; county—gasoline, personal property and registration fees; and city—gasoline and registration fees.

NO "DRAG" AT 40° BELOW ZERO

A. W. BOQUET

—president of ON-TIME TRANSFER CO., Inc., operating between Omaha and Chicago, and one of the nation's outstanding leaders in truck organization activities, says—

"Cold weather as low as 40° below zero did not handicap us in brake application. We did not experience 'dragging' or 'freezing' brakes, probably because Lathan-Besler Power Brake does not necessitate oiling or servicing. This complete satisfaction has brought home to us the importance of economical brakes, and we are changing our entire fleet to 100% Lathan-Besler."

Signed—
A. W. BOQUET
President

LATHAN BESLER

Engineered POWER BRAKES

DO NOT let "trick" features and theoretical talking points divert your attention from FUNDAMENTALS. There is NO substitute for the PROVED economy, UNIFORM, year around satisfaction, and MAINTENANCE-FREE operation you get with LATHAN-BESLER. Nation-wide sales and service. Be sure to see the new 1936 LATHAN-BESLER Catalogue before you buy ANY power brake. Write for your free copy TODAY.

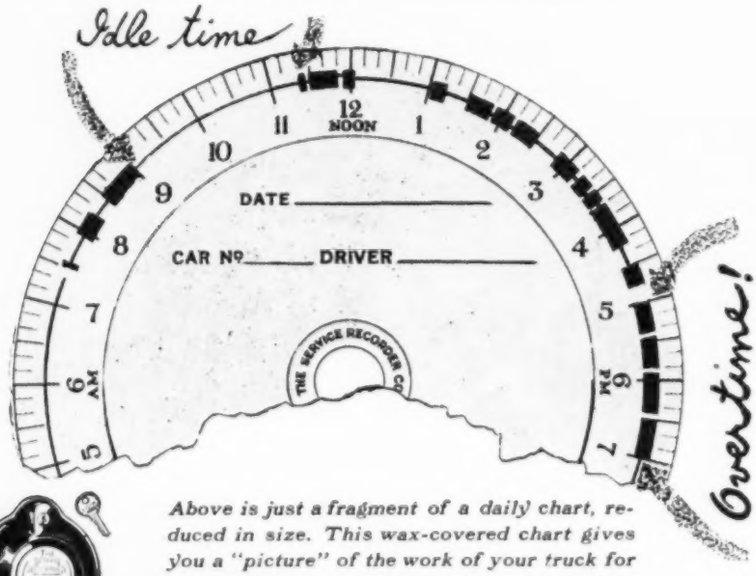
LATHAN CO., Inc. SAN FRANCISCO—Polk & Pine Sts. DETROIT—477 Selden Avenue (Since 1911)

OVERTIME!

Is it a habit with your truck?

One thing is certain —if your truck wastes an hour *during* the day, it will have to take an hour *after* closing time to get a day's work done. And that is what is happening with thousands of motor trucks.

If your truck is busy during the day and still has to work overtime, then pay your overtime cheerfully, and *on the basis of the chart of the Servis Recorder.* Don't have any more arguments about overtime. And don't have your trucks working after hours when they could finish everything *during* hours. The Servis Recorder will tell you on its chart the whole situation at a glance.



Above is just a fragment of a daily chart, reduced in size. This wax-covered chart gives you a "picture" of the work of your truck for the past 24 hours, with busy time recorded automatically on it. The chart is inside the little Servis Recorder, *and the* Servis Recorder, *by the way, is attached to any truck merely by a couple of ordinary screws or bolts. Over 100,000 trucks have been equipped already.*

THE SERVIS RECORDER

Write for booklet "Ten Ways of Getting More Work Out of Motor Trucks"

THE SERVICE RECORDER COMPANY
1422 Euclid Ave., Cleveland, O.

22 Drivers Get Awards

TWENTY-TWO drivers for the Whitin Machine Works of Whitinsville, Mass., were recently presented with certificates and seals denoting periods of from one to nine years for driving their vehicles without accidents.

W. E. Burnap, yard superintendent, presented the seals on behalf of the Whitin company at a meeting of drivers held in the Assembly Hall at the Whitinsville Fire Station. O. T. Sundlie, engineer for the American Mutual Liability Insurance Company, whose affiliate, American Policyholders' Insurance Company furnished the seals, spoke on safe driving.

In cooperation with its automobile fleet policyholders, the American Policyholders' Insurance Company has instigated a program of rewarding employee drivers for their safety efforts by presenting them with certificates and medals. Seals are added to the certificates on subsequent years. Awards made were as follows:

Thirteen nine-year seals to: Willard E. Burnap, Archie Bolliver, Edward Connors, Victor Fuller, Fred Osgood, Albert J. Podvin, Reuben O. Robie, George W. Rae, William D. Veau, Lester J. Wallace, Clarence A. Williams, George Williamson, and Roger W. Hobb.

Three seven-year seals: Alphonse Guertin, Ernest J. Leonard, and Joseph Osterman.

One four-year seal: Aubrey Hamilton.

Three three-year seals: Lawrence O'Neil, Daniel Lemieux, and James Stewart.

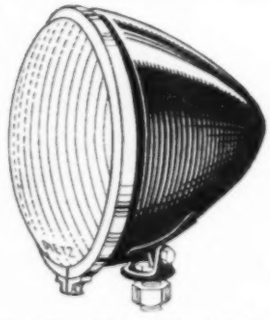
One two-year seal: Stanley Wessel.

One award of merit certificate (representing one year): Arthur White.

All of these records were established as of December 31, 1935.

A NEW ROAD AND FOG LITE BY DIETZ

No. 290
ROAD LITE
No. 300
FOG LITE



(D) Fitted With Dietz (D) Type Bracket

THIS new Dietz model is a very sturdy, handsome lite in black finish—economical for installation on fleets of trucks, buses and automobiles.

No. 290 is the Road Lite, with clear fluted lens. No. 300 is the Fog Lite, with amber fluted lens.

Road risks are reduced by Road or Fog Lites and drivers are relieved of strain by having the edge of the road on unfamiliar curves and in fog well lighted instead of trusting to blind luck.

Ask your supply house about Dietz Road and Fog Lites. If you do not have the latest Dietz Catalog, you will find it a convenience. Send for it.

DIETZ

R. E. DIETZ COMPANY
NEW YORK
Pioneer Makers of Vehicle Lamps;
Founded 1840

SHULER
SQUARE
AXLES

DESPITE the present popularity of tubular-type axles, we believe there are certain places where Shuler Square Axles can improve both your jobs and your profits. Shuler makes both square and tubular types, and our recommendations are therefore unbiased.

Write for facts and prices

SHULER AXLE CO.
Incorporated
2903 Second Street
Louisville, Kentucky

65 Chevrolets for Florida

CHEVROLET reports the recent delivery of sixty-five 1½-ton trucks to the State Road Department of Florida, for use in road construction and maintenance work. . . . These units are equipped with special dump bodies and carry dual rear wheels with heavy-duty pneumatic tires.

Education, Fines Prescribed for Safety

POLICE Justice Edward F. Kampf, of Albany, N. Y., declares that education is one of the greatest factors in curbing motor accidents and that a stiff fine is the best lesson for traffic offenders. Thus far in 1936 he has applied his philosophy to upwards of 500 Albany motorists.

All Accidents Called Avoidable

"THERE is no such thing as an unavoidable accident," says William E. Gunn, State Motor Vehicle Commissioner of Colorado. His report reveals that in the first quarter of 1936 there were 1241 traffic accidents in Denver, "all of which," he declares, "were avoidable."

REMOVED ALL THE GREASE!

That's what happened after a simple 15-minute application of MAGNUS CEMENT CLEANER AND RENOVATOR (92-P) in a large midwestern garage recently. And, for years that floor had never been cleaned except with water!
MAGNUS 92-P not only CLEANS, but WHITENS and HARDENS the cement as well.
WRITE FOR our new 48-page "Automotive Cleaning Handbook," which describes cement floor cleaning with MAGNUS 92-P and many other cleaning operations.

MAGNUS CHEMICAL COMPANY
36 South Avenue Garwood, New Jersey

High Handling Costs and Spoilage prey on your foodstuffs in transit. Guard load and profits in
MASTERCRAFT TRUCK BODIES
They protect the product, save valuable time, give big advertising value without a price penalty

BUCK MFG. CO., LANSING, MICH.

FOR THE OIL GASOLINE & WATER CONNECTIONS
VELLUMOID
VELLUMOID VELLUMOID

Never a patched or broken gasket with VELLUMOID. Easy on, easy off, and you can forget the shellac pot!
THE VELLUMOID CO., WORCESTER, MASS

TRUXMORE
WORLD'S BEST 3RD AXLE

Reduces Your Gasoline Costs $300 per Year per Truck

Owners report 3rd Axles save 25% on Gasoline compared to semi-trailers over the same route.

Gasoline SAVINGS total $300 per yr. per truck (50,000 miles).

Multiply this figure by the number of trucks in your fleet. That's what TRUXMORE can do for you!

We make Both 3rd Axles and Semi-trailers
Write for unbiased facts about both. Address Dept. D.

1791 FILLMORE AVE.
TRUCK EQUIPMENT CO. INC.
BUFFALO, N.Y.

Chicago, Ill.
Philadelphia, Pa.
Pittsburgh, Pa.
Boston, Mass.

New York
Syracuse, N. Y.
Binghamton, N. Y.
Rochester, N. Y.
Erie, Pa.

New 1936 Model
Genuine SOUTH BEND
9" x 3' WORKSHOP
LATHE

$75.00 Less Motor Drive

A BACK-GEARED SCREW CUTTING PRECISION LATHE

Does the 6 most important automotive service jobs on Pistons, Valves, Connecting Rods, Armatures, Bushings and General Machine Work. This 9" x 3' Workshop Bench Lathe is the practical size for doing 95% of the machine shop service jobs on all automobiles, buses and trucks coming into the modern garage and auto repair shop.

9⅛" x 3' Worksbop Lathe with Horizontal Countershaft, ¼ h.p. Reversing Motor, Switch and Belting as shown. . $98.25

Trues Commutators . . Refaces Valves
Makes Bushings . . Finishes Pistons

10 New Features: Include Twin Gear Reverse for Right or Left Hand Screw Threads and Automatic Longitudinal Feeds to carriage; Ball Thrust Bearing on Headstock Spindle; New, improved Tailstock; New improved Compound Rest and improved Back Gears.

The most valuable, useful and versatile machine in any auto repair shop and in addition can be fitted with 38 practical attachments for doing all kinds of special jobs.

Easy Payment Terms over an extended period of time can be arranged. Complete information on request.

WRITE FOR THIS NEW BOOK

Showing above lathe in 8 different drives and 4 bed lengths. Ask for No. 15-T. Sent Free.

SOUTH BEND LATHE WORKS
897 E. Madison St., South Bend, Ind., U.S.A.

SOUTH BEND *Precision* LATHES

An Interesting Pick-Up Body

(*Continued from page* 36)

The signs on this truck are of especial interest; we are very proud of them. They are of the "permanent" type, of vitrified enameled construction, and are very easily removed and replaced, as they set in an angle-iron frame. Other operators in this city seem to like these signs very much; several fleets have since adopted similar ones.

All of our half-ton trucks are painted a dark green, with black fenders. When it is necessary to repaint them, we are going to paint the fenders green, too. Our passenger cars are painted in the same green all over. The larger trucks have black fenders and hood, and the rest of the trucks are finished in bright orange. All running gear is black.

Our larger "fitting" trucks carry the same style of tool box and meter rack, although they are a few inches wider, due to the fact that the bodies are wider. These trucks also carry the pipe in a horizontal rack, with all of it back of the cab door, so that both doors can be opened; they also have the same sign set-up, though the signs are half again as large in each direction, but maintaining the same lettering and proportions.

We find that the smaller trucks (illustrated) have sufficient volume and capacity to handle our normal run of either refrigerators, ranges or heaters. Incidentally, we favor this particular make of small truck here, not because it is any better than some of the others, but because we can get very much better repair service. And that means something in our case, because we farm-out all repair work, and still like that system best.

We find that the use of oversized tires is a big help in minimizing enamel breakage on appliances; and also, the trucks seem to "stay together" much better.

One item that would help a lot is this. Some satisfactory method of attaching bumpers to the rear of a pick-up truck should be devised, so that the tail-gate can still be let down. This would save much in damages to the headlights and grilles of other cars which might strike us from the rear.

●

Fitting the Truck to the Job

(*Continued from page* 42)

fore it is necessary to use larger tires, which in this case would be 9.00/20 with a total capacity of 13,000 for the four tires.

Properly fitting a truck to the job may cost somewhat more at the start, but experienced operators know that it pays well in the long run. It is folly for a man to use the same unit to haul 10 tons from Detroit to Pittsburgh as he would to transport 1½-ton loads around the city; yet this is being done. The same identical unit just cannot be suitable for both jobs, and sooner or later one or the other will prove to be a bad investment.

●

New Reo 3-5 and 4-6 Tonners

(*Continued from page* 45)

and vacuum power operated brakes are of the same type as on the new Reo 3-5-ton models. The chassis frame, however, is necessarily larger. This has a depth of 10" as compared with the 8⅜" deep frame of the 3-5-ton unit.

As an added feature, a guaranteed truck performance rating is available, which tells exactly what perfor-

mance may be expected from each model. Thus the buyer is assured of receiving a truck tailor-fitted to his individual needs, it is claimed.

"Every effort has been expended to improve the appearance and performance ability of the new Reo models," according to R. W. Fitness, chief engineer for the Reo Motor Car Company. "We have made them gracefully streamlined, smartly styled, and have preserved a striking appearance throughout, without resorting to frills or special features that look overdone and might be costly to repair when damaged."

A new chromium-plated radiator grille sets a distinctive note which marks the whole design of these trucks. Modern hood louvres; wide, graceful fenders, and heavy chromium bumper are prominent appearance features.

The new, wider (56 inch) cabs on both these models are modern in styling and comfort. Both sections of the V-windshield can be opened wide for ventilation. Side cowl ventilators and large door windows add to driver comfort in hot weather. Attractively grouped airplane type instruments are flanked by two lockers on the instrument panel. The cab is trimmed throughout and sealed against drafts and leakage. Adjustable seat cushions, dome light, door locks and accessible controls are other features. Safety glass is standard throughout.

With the addition of these new heavy-duty models, Reo now offers a completely revised line of Speed Wagons and trucks from ½ to 4 to 6-ton capacities and with tractor-trailer gross ratings up to 40,000 pounds. Safety bus chassis and metropolitan type (cab-over-engine) trucks and busses are also featured in the Reo line for 1936.

●

Diamond T's New ¾-Tonner

(*Continued from page 47*)

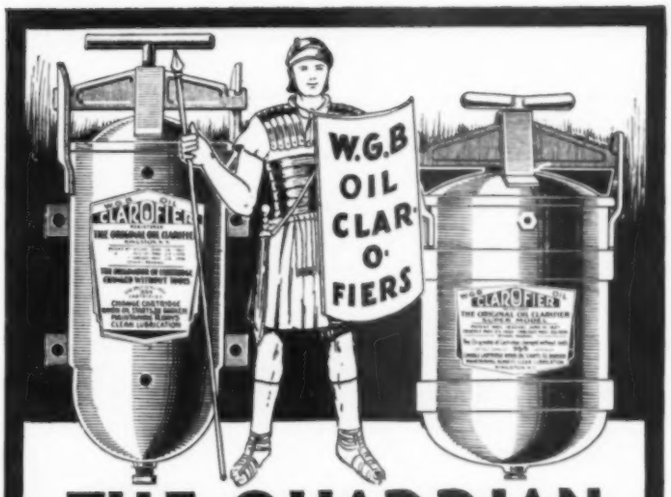
ratio is 4.5-to-1; a 5.1-to-1 optional ratio is also available. Front axle is a drop-forged I-beam type, with Timken roller bearings on the spindles.

The transmission is mounted in unit with the motor, with three speeds and reverse. Synchro-mesh second and high gears are featured, with silent helical gears. Main and counter-shafts are carried in ball and roller bearings. A one-piece hollow propeller shaft is used, with needle-bearing universal joints. Steering gear is of the latest Ross cam-and-lever type. Clutch is a single-plate, dry disc type, 10 inches in diameter.

Other specifications include: Gasoline capacity, 18 gallons, with one-piece welded tank. Ignition, distributor type. Chassis lubrication, Zerk system. Radiator, flat tube and fin core, with streamlined shell and decorative grille. Finish, Standard Diamond-T Red, on radiator shell, hood, cowl, fenders and wheels; the balance of the chassis being black enameled.

The new Model 80 carries 6.00 x 16-inch balloon-type tires, with truck-type drop-center rims. Larger tires are available at extra cost, including 7.00 x 16-inch, six-ply. Wheels are of the one-piece, metal spoke type. Two types of cabs are available, one known as the standard model, and the other as the de-luxe model. These cabs are 60 inches wide, heavily insulated and have all-steel roofs. They are equipped with comfortable cushions and quality hardware, and are finished in baked enamel.

Operating economy of the new Model 80 Diamond-T job is indicated by a series of interesting tests conducted with a fully loaded truck under actual traffic conditions, made both in city service and road work,



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and recorded on a standard Ohmer Tachograph. The information which these tests uncovered has been gathered by the manufacturer and will be sent to any fleet operator who asks for it. Among the data revealed is the fact that the average mileage was 12.4 m.p.g. and the top road speed of 60 m.p.h., fully loaded, was readily obtainable. We'd suggest that you write to the truck manufacturer for the balance of these interesting test data.

Literature covering this new model and completely illustrating and describing the entire chassis, the two cabs and the two standard body styles available, is now ready. For your free copy (also for a copy of the test data) write to W. S. Baldwin, c/o Diamond-T Motor Car Company, Chicago, Ill. . . . Mention of FLEET OWNER will help to identify the source of your inquiry and will be appreciated by us.

●

"Hill-Holder" on New Studebakers

(*Continued from page* 49)

If the truck is stopped on a level or a downgrade, the ball is not seated on the rubber seal and the brake fluid is free to return to the master-cylinder immediately upon release of the brake pedal, even though the clutch is disengaged and the ball cage in its rearmost position.

For service purposes, there are two adjustments to be checked in connection with the hill-holder. One is to make sure that the bosses on the top of the unit are level when the truck is on a level surface. This can be determined with a spirit level. The other is that of the control rod which links the clutch pedal with the hill-holder operating lever. This rod may be adjusted so that the brakes release just ahead of the clutch engagement.

The latter adjustment is obtained either by shortening or lengthening the effective length of the rod. If the brake release is too much delayed, the rod should be shortened. If the brakes release too quickly, permitting the vehicle to roll back before the clutch engages, the rod should be lengthened.

●

ASA Seeks to Improve Gasoline Standards

GASOLINE better suited to the needs of the fleet user, and a higher average mileage per gallon is the goal of a program of specifications and tests for gasolines announced recently by the American Standards Association.

DUA-SAF SIGNAL

The Stop-Light that Speaks with Action

Combination Tail and Swinging STOP Light for trucks, buses and trailers

List Price: Black, $10.00
Chrome, $11.50

Write for fleet discounts and full details.

SAFETY SIGNAL DEVICES, INC.

5045 BROADWAY CHICAGO, ILL.

Western Distributors: Transportation Guarantee Co., Inc., 35 Chesley St., San Francisco, Calif.

The main impetus for the program has come from fleet operators who are some of the largest users of gasoline. Members of the Bus division of the American Transit Association alone buy approximately $10,000,000 of gas yearly. One company alone uses twenty-five million gallons a year. There are, in addition, at least 35,000 other common carrier buses in operation in the United States whose owners have an equal interest in the problem.

The Transit Association, in proposing the project, pointed out that operators engaged in long distance service are compelled to purchase much of their gasoline from service stations on their routes. Companies operating such buses find it particularly difficult to secure gasoline of uniform characteristics, and feel that this situation would be materially improved by standard specifications.

Work on this project is being carried out through the cooperation of all interested groups. The American Society for Testing Materials is taking leadership in the technical work. Other represented groups will include consumer and producer organizations, the Government, scientists, and automobile manufacturers.

Gasoline specifications will have a definite interest for the driver of pleasure vehicles as well as for the fleet operator. All motors are adjustable to different types of gasoline, but this adjustment is a job for the expert. Lack of it leads to serious losses through the exhaust pipe which it will be possible to largely eliminate by the use of specifications.

The formulation of technical requirements has already been started, and tests are under way to determine their practical workability. Mr. T. A. Boyd, Head of the Fuel Section of General Motors, is chairman of the committee in charge of this work.

●

Uses Brine to Keep Down Road Dust

SALT brine obtained from oil wells is compacting dust into hard wearing surfaces on Michigan's county roads at an annual cost of about $100 per mile for the four applications. At the same time the use of the brine for highway dust-laying solves the problem of salt water disposal in the state's oil fields.

The brine, transported in a liquid state, and sprayed upon the roads from a truck, contains chlorides of sodium, calcium, and magnesium which attract moisture from the air and from the soil beneath making an effective dust palliative.

More than 163 miles of gravel road were satisfactorily treated last year, according to the American Petroleum Institute.

BURCH DUMP BODIES
and HOIST with
Balanced power for raising or lowering—automatic locking, any position—one moving part—no gears—no oil lines—no heating or foaming of oil. Plain and Braced Side Bodies—1½ and 2 Yard capacities.
FAST! POWERFUL!
Write for Literature
THE BURCH CORPORATION
Dept. F-6 CRESTLINE, OHIO
BALANCED POWER
FOR LOWERING OR RAISING
ONLY ONE MOVING PART

THAR SHE BLOWS! AND SIX CENTS WOULD FIX IT WITH *Sani-Flush*

Send for a free trial

BEWARE of a clogged radiator. It runs up cost of operation. It leads to expensive repairs. Keep radiators clean and motors cool with Sani-Flush. A cleaning costs only 6c per passenger car (15c for largest trucks, buses and tractors).

Sani-Flush is perfectly safe. It is not caustic. Cannot hurt aluminum cylinder-heads, fittings or motor block. Sold in economical 25-lb. pails. At all grocery, drug and hardware stores or jobbers. Write on your firm's stationery for a generous free sample. Try it for yourself. No obligation.

THE HYGIENIC PRODUCTS COMPANY
218 SEVENTH STREET CANTON, OHIO

To know where operating costs can be cut—gasoline, oil, tires, repairs—you must have reliable mileage records.

Veeder-Root Hub Odometers *give* the most accurate mileage records it is possible to get because they can be adjusted to agree to a tenth of an inch with all changes in wheel and tire dimensions. They clock up every mile a truck goes—both forward and backward—and the records cannot be disputed.

Veeder-Root Hub Odometers are built to *stand up*. Dust and dirt cannot get inside. And if they are tampered with, it is easily detected.

Write for complete information—and *proof* of the savings that Hub Odometers are effecting for others.

VEEDER-ROOT Inc.
HARTFORD, CONN., U. S. A.

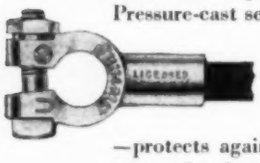
CABLE TROUBLE?

You won't have it with STERLING-NOKRODE!

● It's all over! All the trouble and annoyance caused by corrosion in old-fashioned battery cables is pushed clear out of the picture by the new Sterling-Nokrode Battery Cable.

Here is a full-gauge cable built as only Sterling could build it—equipped with a sturdy, non-stretch terminal that is *positively non-corrosive*. A cable approved by leading car-makers, and already in use as original factory equipment on thousands of vehicles. Delivers all the power—all the time—and keeps on delivering it.

Features: (1) Right and left-hand reversible cadmium plated bolt and nut. **(2)** Special pressure-cast, non-corrosive alloy. **(3)** Imbedded steel core. **(4)** Copper conductor impregnated with pressure-cast alloy. **(5)** Pressure-cast seal over rubber insulation.



Sterling-Nokrode Battery Cables are just another example of why it pays to standardize on Sterling's Complete Cable Service. Sterling reduces cable costs—protects against breakdowns in service—and makes it easy for the mechanic to do a good job quickly. Ask your jobber or write.

STERLING CABLE CORPORATION
Port Huron, Michigan
A Division of Electric Auto-Lite Company

ADVERTISERS INDEX:

A

Acheson Colloids Corp.	59
Aluminum Co. of Amer.	2nd Cover
American Brakeblok Corp.	—
American Cable Co.	39
Appleton Elec. Co.	63
Atlas Press Co.	—
Auditorium Hotel	74

B

Beaurline Fountain Brush Co.	—
Bendix Products Corp.	—
Blackhawk Mfg. Co.	27
Blood Bros. Mach. Co.	—
Bowser & Co., Inc., S. F.	—
Briggs Clarifier Co.	73
Burch Corp.	71

C

C. & C. Sales Corp.	—
Champion Spark Plug Co.	7
Chase & Co., L. C.	—
Chevrolet Motor Co.	—
Christiana Machine Co.	—
Cummins Engine Co.	37

D

Diamond T Motor Car Co.	50A & 50B
Dietz Co., R. E.	66
Dodge Division—Chrysler Motors	13
du Pont de Nemours & Co., E. I.	6

E

Eaton Mfg. Co.	19
Egyptian Lacquer Mfg. Co.	—
Electric Storage Battery Co.	—
Exide Batteries	—

F

Firestone Tire & Rubber Co.	—
Ford Motor Company	17
Four Wheel Drive Auto Co.	—

G

Garlock Packing Co.	—
General Motors Truck Co.	11 and 14
General Tire & Rubber Co.	—
Gerstenslager Co.	69
Globe-Union Mfg. Co.	—
Goodrich Co., B. F.	9
Grinnell Company	—

H

Hall Mfg. Co.	—
Handy Governor Corp.	64
Haskelite Mfg. Co.	60
Hygienic Products Co.	71

I

International Harvester Co.	34A & 34B

K

Karpex Mfg. Co.	69

L

Larkin Co., Inc.	43
Lathan Company, Inc.	65
Lenox Hotel	74
Lincoln Electric Co.	—
Linde Air Products Co.	23
Luce Mfg. Co.	67

M

Mack Trucks Inc. —
Magnus Chemical Co. 67
Meyercord Company —
Midland Steel Products Co. —

N

New Departure Mfg. Co. 3

O

Oakite Products Corp. 10
Oxweld Acetylene Co. 23

P

Packard Electric Co. 12
Pennsylvania Hotel 74
Pittsburgh Plate Glass Co. (Glass Div.) 8
Pittsburgh Plate Glass Co. (Paint Div.) —
Presto-O-Lite Co. 23

R

Reo Motor Car Co. —

S

Safety Signal Devices, Inc. 70
Scovill Mfg. Co., Inc. (A. Schrader's Son Div.) —
Service Recorder Co. 66
Sherwin-Williams Co. 3rd Cover
Shuler Axle Co. 67
S K F Industries, Inc. 70
Socony-Vacuum Oil Co. 31
South Bend Lathe Works 68
Sponge Rubber Products Co. 70
Sterling Cable Corp. 72
Studebaker Corp. 4th Cover

T

Texas Company 4 & 5
Thompson Products, Inc. —
Timken-Detroit Axle Co. 61
Truck Equipment Co. 68

U

Union Carbide & Carbon Corp. 23
Union Carbide Sales Co. 23
United-American Bosch Corp. 41

V

Veeder-Root Co. 71
Vellumoid Co. 67

W

Watson Co., H. S. 62
Weatherhead Co. —
W. G. B. Oil Clarofier, Inc. 69
Wohlert Corp. 70

Z

Zenith Carburetor Co. —

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Cuts Maintenance!

BRIGGS Model 1000 Oil Clarifier cuts maintenance costs by delivering a constant stream of new clean oil to your engines. The oil is refinery pure—just as good as the day it came from the refinery! Because the Briggs Model 1000 Oil Clarifier uses the same kind of filtering clay that refineries use. You can't see any dirt in oil from a Briggs Model 1000 Oil Clarifier, and a chemist can't find any! But that is only one-half the job of a filter—the other half is the removal of acids, synthetic resins and gums,—the products of oxidation of the oil in your crankcase. The Briggs does this, too, and the chemist's test will prove it. That's why the Briggs Model 1000 Oil Clarifier saves oil—makes it last longer, and will soon pay for itself in that saving alone.

Briggs Model 1000 Oil Clarifier is an oil filter—not a strainer. It works constantly and it always saves money for its users—in maintenance as well as lower oil costs. Write to us. We can show you how you, too, can reduce maintenance and oil costs.

BRIGGS CLARIFIER CO.

3260 K STREET, N. W., WASHINGTON, D. C.

THE A B C's OF SAFETY

By Louis Van Orman

A is for Alertness, which drivers should use,
B is for Brakes, to apply when confused.
C is for Caution, to be used all the time,
D is for Drunkeness, the worst driving crime.
E is for Earnestness in driving a load,
F is for Fogginess, so feared on the road.
G is for Grade that demands lots of care,
H is for Hazards you find everywhere.
I is for Injuries so often sustained,
J is for Jails when they can't be explained.
K is for Kindness you show on the way,
L is for Laws which all should obey.
M is for Morgues where lie all the dead,
N is for Negligence, the Court's verdict read.
O is for Ordinances, supposed to be known,
P is for Pedestrians, with rights of their own.
Q is for Quickness of thought, when its needed,
R is for Rules, which should always be heeded.
S is for Safety, less speed and more care,
T is for Thinking, do you do your share?
U is for Understanding the other man's rights,
V is for Visibility, so look to your lights.
W is for Watchfulness when approaching a hill,
X is for X-rays, used for a spill.
Y is for You, on which all this depends,
Z is for Zeal, thus the alphabet ends.

Trades Horse for Tractor Tires

BARTER or "Swapping" has always been an aid to the progress of commerce and industry, and an incident recently reported to The B. F. Goodrich Company by one of its dealers again points out its value, at times, in completing transactions.

An Iowa farmer had an extra horse, The Northern Iowa Oil Company of Cresco, Iowa reported to Goodrich, and he also needed, and very much desired a set of tires for a tractor. The dealer had the tires, anxious to put them to work on equipment in the fields.

So the dealer and the farmer got together and one part of the transaction was that the horse was traded in on the tractor tires. Old Dobbin's final destination was not revealed.

●

Rail-Truck Tanks Speed Milk Delivery

A NEW method for transporting milk from the country to central pasteurizing plants in the city has recently been developed by Motor Terminals Company, New York, in conjunction with the New York, Ontario and Western Railroad and The Dairymen's League.

Stainless-steel lined tanks of 2,000 gallons capacity are supported on flat cars by special skid platforms which, in turn, are anchored to transverse rails. In the city, a motor truck, also provided with rails, is backed up to the flat car, and the tanks are readily transferred by means of a special chain drive on the truck trailer.

This method, involving the use of interchangeable stainless steel tanks and specially adapted flat cars and trucks, results in quick and efficient collection, transportation and distribution of milk.

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These Features When You Visit

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A MICHIGAN AVENUE LOCATION

RIGHT AT THE EDGE of the LOOP

MODERN SPACIOUS ROOMS

FOOD THAT IS WORLD FAMOUS

EFFICIENT, COURTEOUS SERVICE

LOW RATES

$1.50 WITHOUT PRIVATE BATH

$2.50 WITH PRIVATE BATH

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600 Rooms, each with bath
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Stop at the Hotel Lenox. Spacious rooms. Splendid meals. Only 5 minutes from the business and theater district yet removed from downtown din. Single, $1.50 to $3.00. Double, $2.50 to $5.00. Suites, $5.00 and up. Write for booklet containing map of downtown Buffalo.

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WHITE STAR bus line *is* Puerto Rico's transportation. Under tropical skies—and temperatures—Sherwin-Williams Transit Finishes withstand the elements . . . retain their lustre . . . serve "beauty and protection" as they do here. **WHITE STAR**

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Announcing the greatest safety advancement of the year . . .

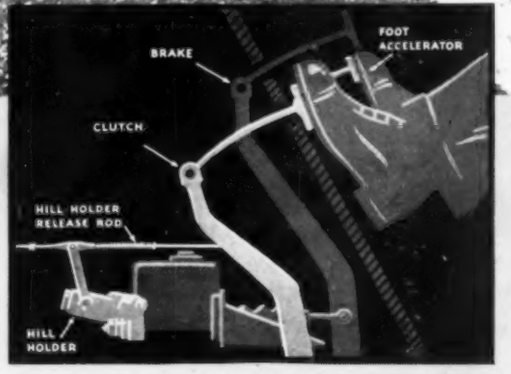
Automatic Hill Holder

FOR

STUDEBAKER

TRUCKS AND BUSES

Studebaker Trucks priced from **$565** upward, chassis at the factory



THE 1936 1½-ton and 2-ton Studebakers are the world's only trucks offering an Automatic Hill Holder! That's the biggest news in the truck industry. This unique safety device will eliminate costly and annoying accidents that result when trucks roll back down an incline while the operator is switching his right foot from the brake to the accelerator pedal

Drive a Studebaker truck with the Automatic Hill Holder. Stop on any grade, no matter how steep—your Studebaker truck won't roll back . . . and you won't have to use any trick foot work. The hill holder works on any incline, and combined with the finest hydraulic brake system it makes Studebaker the safest truck on the market.

THE STUDEBAKER CORPORATION
TRUCK DIVISION—SOUTH BEND, INDIANA

Here's How It Works . . .

When stopping on any incline, no matter how steep, you simply apply the brake and clutch pedals in the usual manner. An automatic fluid check retains the hydraulic pressure in the braking system until the clutch pedal is released. The operator can then take his foot off the brake pedal and use it on the accelerator as he lets in the clutch to continue upgrade—making it unnecessary to keep his foot on the brake pedal while the truck is stopped or during the starting operation. It's like having an extra foot.